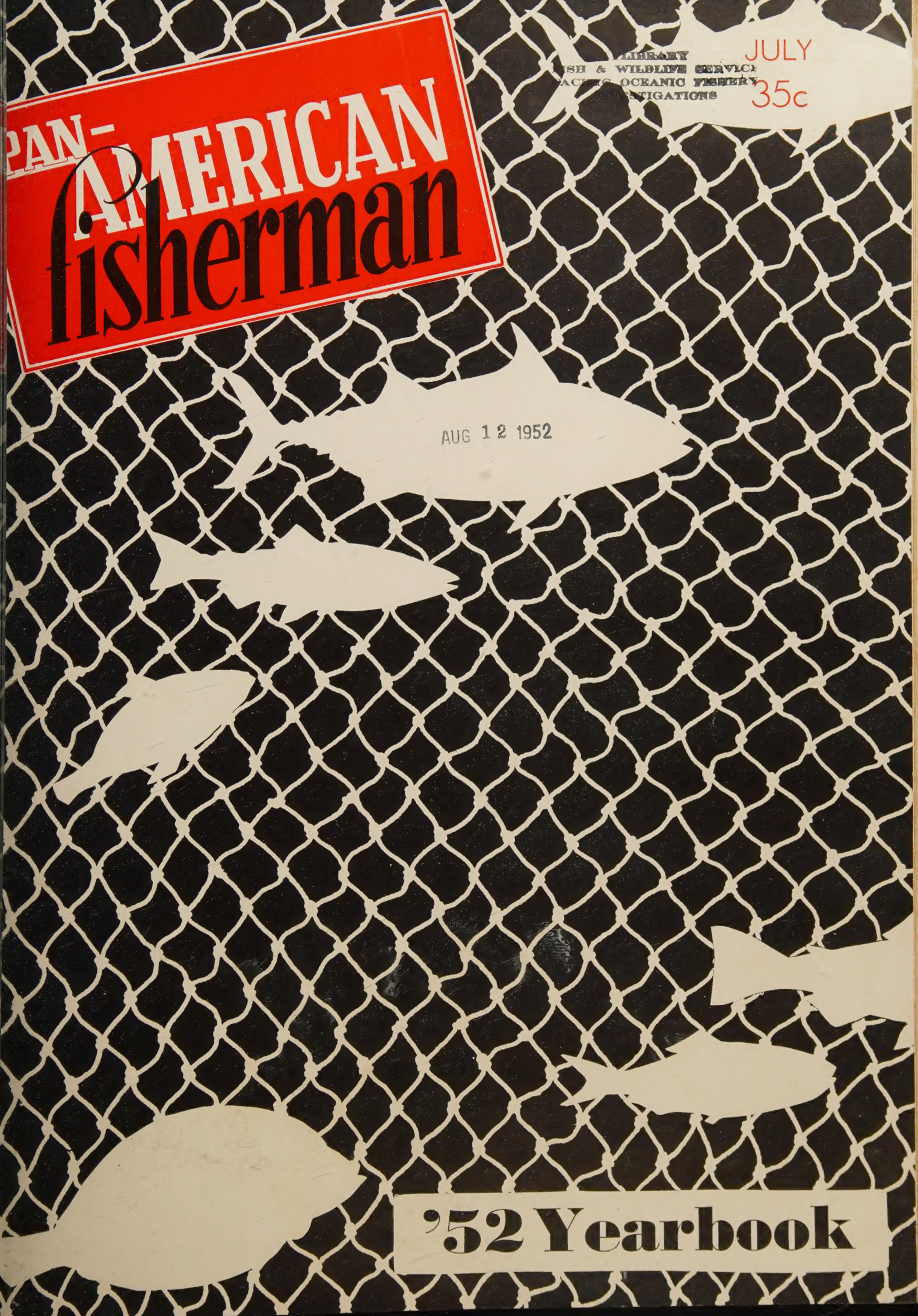

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AS IN THE PAST SO IN THE FUTURE

ALL ACTIVITIES OF THE AMERICAN TUNABOAT ASSOCIATION

ARE DIRECTED TO IMPROVEMENT AND PROSPERITY

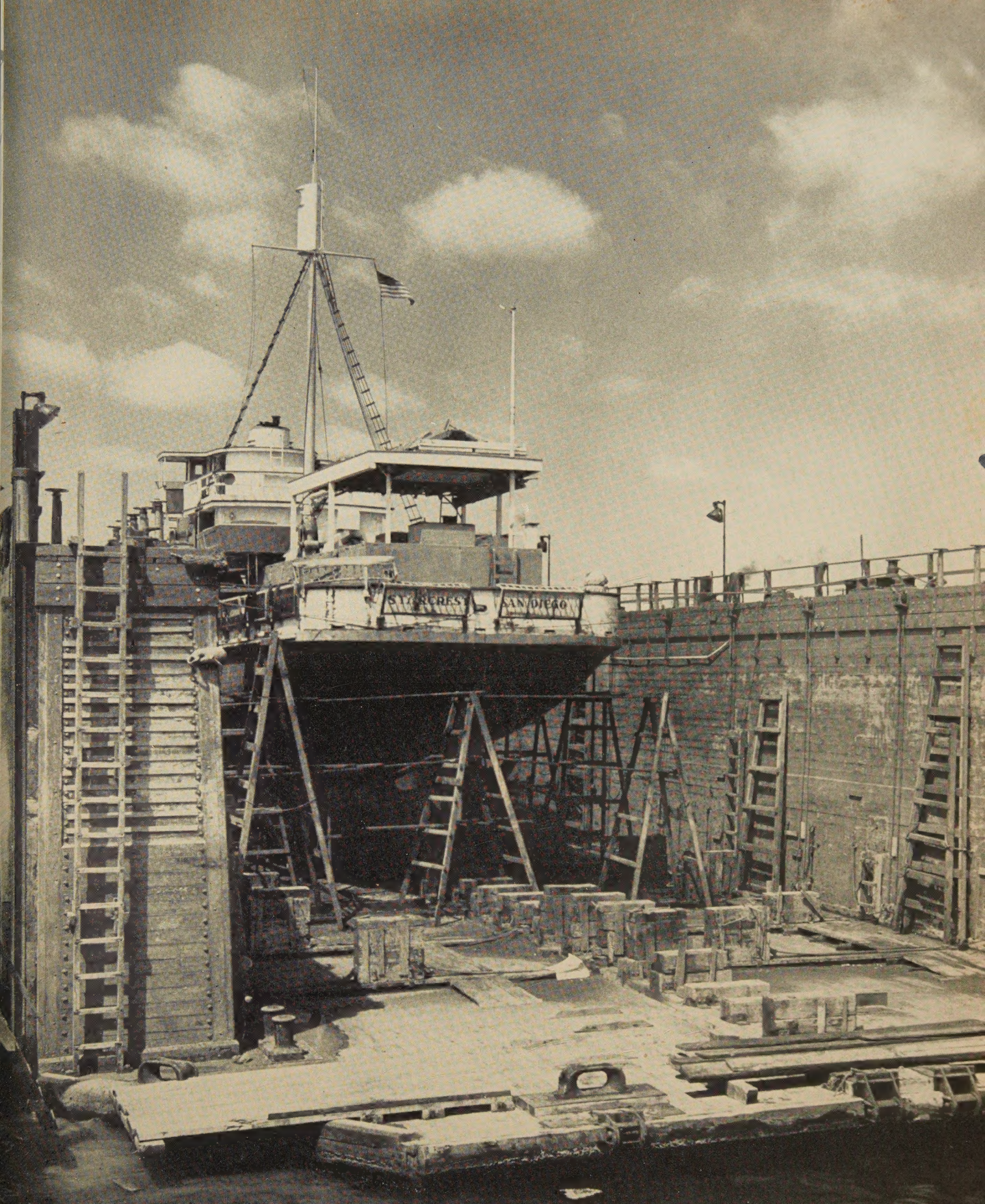
OF THE TUNA INDUSTRY

Sam Crivello, president *Harold F. Cary, manager*

AMERICAN TUNABOAT ASSN.

Foot of "G" St., Harbor Front

San Diego, California



AN DIEGO MARINE CONSTRUCTION COMPANY

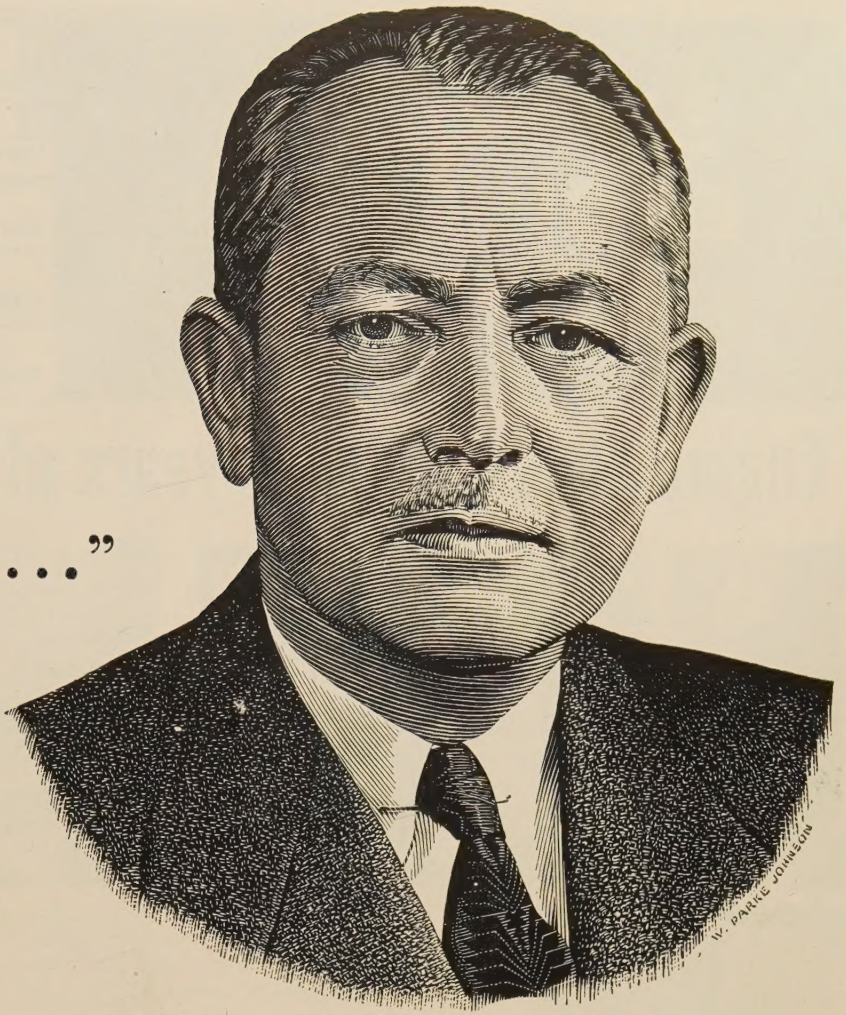
Boat Building and Repair

Foot of Sampson Street, San Diego, Calif.

In San Diego today — the average residential rate for gas and electricity is less than it was in 1940.

SAN DIEGO GAS & ELECTRIC COMPANY

"... opportunity is freely given..."



PAUL M. HAHN
President, The American Tobacco Co.

"Our nation has grown great largely because opportunity is freely given. Only very few people actually make their own 'breaks.' Today, millions of Americans are providing for their personal financial security and at the same time helping in the building of our national defenses. The opportunity to do so is given by business management which affords employees the means of practicing systematic thrift through the Payroll Savings Plan for the purchase of U. S. Defense Bonds."

Nearly seven million employees of industry are "providing for their personal security and at the same time helping in the building of our national defenses."

- they are the men and women who availed themselves of the opportunity referred to by Mr. Hahn—the opportunity to enroll in the Payroll Savings Plan for the systematic purchase of U.S. Defense Bonds.
- they represent a high percentage of their companies' employees—in plant after plant, the averages are climbing to 60%, 70%, 80%—even higher.
- their investment in Defense Bonds—and America—add up to $140 million per month.
- they constitute a large block of the men and women who on December 31, 1951, held Series E Bonds amounting to $34,727,000,000—$4.8 billions more than the cash value of Series E's outstanding in August, 1945.

Not far from you is a State Director of the Savings Bond Division. He will be glad to tell you how easy it is to give your employees a Payroll Savings Plan. Or, if you already offer the Plan to your people, he will show you how to conduct a simple person-to-person canvass of your plant—a canvass intended to do only one thing—to put a Payroll Savings Application Blank in the hands of every man and woman on your payroll. Your employees will do the rest.

Phone or write to Savings Bond Division, U.S. Treasury Department, Suite 700, Washington Building, Washington, D. C.

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PUBLIC SERVICE PROJECT THE ADVERTISING COUNCIL

Pan-American Fisherman

STANDARD ENGINEER'S REPORT

DATA

LUBRICANT Heavy Duty RPM Motor Oil

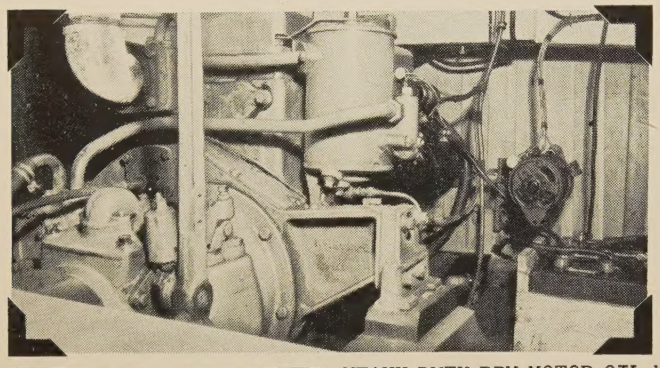
UNIT 115 H.P. marine engine

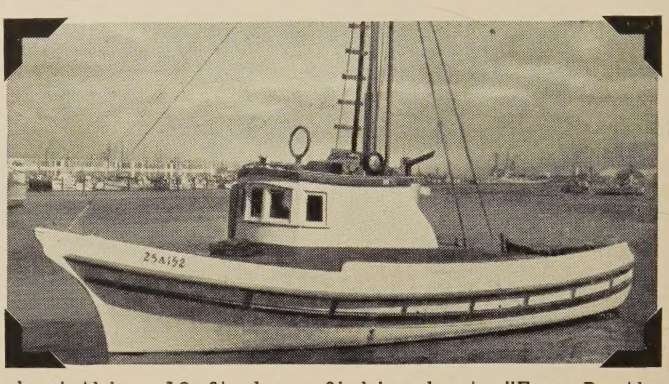
SERVICE Fishing boat "Four Brothers"

CONDITIONS Low engine temperatures—constant load

FIRM V. Passanisi & Son San Diego, Calif.

Engine clean after 1⅓ years of "cold" operation!

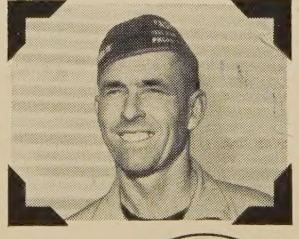




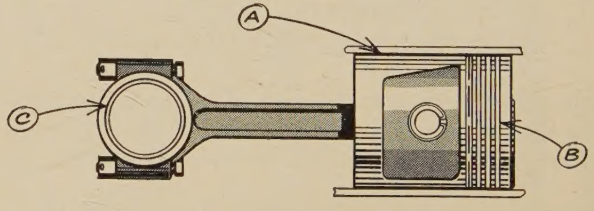
HEAVY DUTY RPM MOTOR OIL has kept this 115 H.P. marine engine clean and running perfectly for 16 months, despite tough work 10 hours a day, 5 days a week. The engine powers the 32 foot, 10 ft. beam fishing boat, "Four Brothers," operated by V. Passanisi and his son, Frank. When inspected recently, engine showed no deposits, all rings and bearings were in good condition.

FRANK PASSANISI says, "Carbon is a common problem in most fishing boat engines because they work 'cold'—at temperatures too low for best operation. However, Heavy Duty 'RPM' solved that problem for us. The way our engine runs now, we should be able to go 5 years before thinking of an overhaul."

MECHANIC E. B. DAVIS, owner of Rosecrans Garage, San Diego, says, "When I opened this engine to grind the valves, it was the cleanest I'd ever seen in this type. There were no signs of wear in cylinders or on pistons."



How Heavy Duty RPM Motor Oil doubles engine life



A. Contains special compounds that keep lubricant on metal whether hot or cold—reduce starting and running wear and rusting when idle.

B. Detergent makes carbon and soot contaminants harmless—keeps rings free, engine clean.

C. Resists oxidation and corrosion, stops foaming.

REMARKS: Heavy Duty RPM Motor Oil was tested in the laboratory and in field use. Compared to premium type oils as designated by the American Petroleum Institute, Heavy Duty "RPM" doubles engine life—the time between major overhauls due to lubrication.

HEAVY DUTY RPM MOTOR OIL

TRADEMARK "RPM" REG. U.S. PAT. OFF.

STANDARD TECHNICAL SERVICE checked this product performance. For expert help on lubrication or fuel problems, call your Standard Fuel and Lubricant Engineer or Representative; or write Standard Oil Company of California, 225 Bush St., San Francisco.

STANDARD OIL COMPANY OF CALIFORNIA

The GLOBE

An International News
File compiled by
FOREIGN BUREAUS
of
Marine Press Association

Kielerfjor, Norway—The German experimental fishing vessel R-96 made the first practical tests with electro-fishing in salt water from April 8 to 10. The tests, which were carried out in Kielertjord, were quite successful, according to the report of a German correspondent, in the April 23 issue of Fiskaren, a Norwegian fishery paper. Both herring and cod were drawn, as if magnetized, to the source of the current. Repeated trials demonstrated that it was possible to assemble widely dispersed schools and even single fish in front of the trawl opening. Cod reacted at a greater distance from the source of the current than herring because of their greater body surface. By using the correct current, small and young fish can be excluded from the magnetic influence of the electrodes so that one can, from the bridge of the vessel, literally sort out the catch according to size and kind before the trawl catches them.

Dr. Meyer stated that these trials have shown the utility of Dr. Kruetzer's method for electro-fishing in the open ocean.

Manufacture of an electro-trawl has begun and it is expected that the gear can be tested in Kieler Bay within a couple of months.

EDITOR'S NOTE: Dr. Kinrad Kreutzer is a German physicist who developed his invention through earlier work on an electro-shock apparatus. Dr. P. F. Meyer is on the staff of a fisheries institute in Hamburg. A description of Dr. Kreutzer's earlier electro-fishing experiments is included in Fishery Leaflet 348, which may be obtained free from the Division of Information, U. S. Fish and Wildlife Service, Washington 25, D. C.

Rome, Italy—From now on any fisheries technologist requiring FAO's World Fisheries Abstracts and who has had difficulties in obtaining it in the past may acquire his subscription free in exchange for technical information, states a March 26 release from the FAO Rome headquarters. All that is necessary is to write a letter to F.A.O., Viale Delle Terme di Caracalla, Rome, Italy, expressing interest and willingness to contribute to FAO information on special subjects which may be asked for from time to time. Such non-confidential information may be incorporated in the work of FAO, its documents, and publications.

The value of these abstracts to practical fishermen, canners, and processors has been attested to by many readers since its first issue in 1950. But because of current difficulties, many people have been prevented from subscribing to the periodical.

To solve this problem FAO has worked it out so that there is a fair exchange between readers and publishers—a free subscription to the periodical in exchange for information. Practical fishermen, boat-owners, and fish processors as well as scientists, often have practical hints and experiences that can help fishermen and processors all over the world. These are screened and published by FAO so that other fishermen and technologists can read them.

The purpose of the World Fisheries Abstracts is to give fishermen, boat owners, fish processors, canners and curers a brief but up-to-date resume of the most recent developments in their fields. The abstracts are designed to be cut out of the book and filed alphabetically or by subject for use at a future date.

Goteborg, Sweden—Representatives from Newfoundland's fishing industry have visited Sweden recently to study Swedish fishing vessels and fishing methods, a February 28 American Consular dispatch from Goteborg reports.

The visit is part of an investigation being made by Newfoundland to improve its high-seas fishing methods. Norwegian vessels and fishing methods have been tried, but it appears that the Newfoundland experts are more in favor of the Swedish type of high-seas fishing vessels and the methods used by Swedish fishermen.

Interest shown by the Newfoundland representatives is so great that there is now under discussion a proposal to dispatch a modern Swedish high-seas fishing vessel, with a complete Swedish crew, to Newfoundland, to demonstrate Swedish fishing methods on the large cod banks. Newfoundland will pay half the costs of such an expedition.

An order for Swedish fishing vessels from Newfoundland is now very welcome, as the smaller yards will soon have completed the Russian contract for fishing vessels.

Should the negotiations with Newfoundland be successful, the smaller West Coast yards will be fully occupied for several years, as the Newfoundland order is expected to comprise vessels and equipment to a value of about ten million U. S. dollars.

Edinburgh, Scotland—Work on a floating fish factoryship of new design will begin shortly at an Aberdeen shipyard, according to an April 22 American Consular report from Edinburgh, Scotland. The ship is to be built for a firm in Leith, Scotland. Plans are based upon the experimental work carried out on the factoryship Fairfree (a British admiralty corvette which was converted to a factory trawler).

The vessel has a stern chute, similar to that of a whale factoryship, and the trawl nets will be operated through this aperture. The trawl winch is driven by a 300 H.P. electric motor, but two motors are installed side by side so that either of them can be coupled on the winch drive in a matter of seconds. The nets are emptied direct into the fish pens in the factory space through hinged flush hatches in the upper deck. The factory space is equipped with machinery for washing, heading, filleting, and skinning. The fish are then weighed, wrapped, and passed through quick-freezers, then sent to storage holds on conveyor belts. The refrigerating machinery has a capacity of about 30 metric tons of fish per day. A temperature of —50° F. in the storage holds is contemplated.

The fish offal is fed by conveyors to a fish-meal plant. A plant for extracting oil from the fish livers will also be installed.

The new ship is 245 feet long by 44 feet broad by 24 feet molded depth to the main deck and 32 feet molded depth to the bridge deck. Sufficient fuel is carried for a voyage of 80 days and the main power source is a 4 cylinder, 1900 B.H.P. opposed-piston marine oil engine. Two vertical boilers provide steam for operation of fresh-water evaporators, and fish-meal and liver-oil plants, as well as for hot water and central heating. Auxiliary motors are driven electrically with power provided by diesel-driven generators.

PAN-AMERICAN *fisherman*

VOL VI—NO. 12

JULY 1952

"NEWSmagazine of PAN-AMERICAN FISHERIES combined with the magazine TUNAfisherman"

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The magazine PAN-AMERICAN Fisherman, combined with TUNA Fisherman, is published monthly at San Diego, California. Editorial, Advertising, Circulation and Executive Offices are located at 205 Broadway Pier Building, San Diego 1, California. Radio-telephone identification, "PANAMAG." Telephone Franklin 7328. Subscription rates in the United States and possessions, one year $3.00; two years $5.00; three years $7.00. Single copies 35 cents. In case of change of address, subscribers are requested to notify both the Post Office and our Circulation Department within ten days, returning to us, if possible, a mailing label from your last issue of the magazine. Entered as Second Class matter February 19, 1948, at the Post Office at San Diego, California, under the Act of March 3, 1879. The magazine will not be responsible for unsolicited manuscripts or photographs. All submissions must be accompanied by a self-addressed return envelope bearing sufficient postage.

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About this Issue . . .

50,000 PROTEINS:

Like "Gold In Them There Hills," Doctor John X. Loughran points out the "GOLD IN THE OCEAN" in the form of PROTEINS from SEAFOODS. See Page 10.

•

PINK TICKETS . . .

Doctor Frances N. Clark discusses research functions in the Division of Fish and Game Laboratory at Terminal Island on Page 12.

•

EXPOSITION:

A reminder of the Western Packaging and Materials Handling Exposition at Los Angeles on August 12-14 will be found on Page 14.

THE CONTINENTAL SHELF:

Part II of this very informative feature by Doctor W. M. Chapman appears on Page 15.

•

RADIOTELEPHONE AND THE TUNA FISHERMAN:

Mr. Harry W. Depert, San Diego District Manager of the Pacific Telephone and Telegraph Company gives us the inside story on the part that Company plays in the ship to shore contacts by the fishing fleets. See Page 16.

•

THE TUNA STORY:

T. C. Atkins views on movies to aid in the sale of tuna seems to us about the most potent innovation proposed to date. See Page 17.

State Department's Santa Claus Attitude Threatens American Industries

There has been great interest in the tuna industry in the tariff problem since a bill was introduced to impose a duty on frozen tuna. The fishing industry is not the only one concerned with tariffs and many publications have printed some commentary on the tariff problem as a whole. The following statement was made by O. R. Strackbein, Chairman of the National Trade Policy as a radio address on June 8, 1952. Mr. Strackbein who is one of our country's acknowledged authorities in the field of international trade has made such a clear, penetrating analysis of the tariff problem that we commend it to every reader as an invaluable source of background information.

•

In recent months there has been a veritable outburst of fear over what is referred to as our rising tariff, as expressed in publicity issued by the Department of State, echoed in numerous editorials, news stories and magazine rescripts.

Most of this alarm is manufactured from a species of economic appeasement that has its origin in suspicion and disdain of the American producer—industry, labor and agriculture. The official publicity, the editorial comment and the rounded articles have given scant evidence of a desire to consult the facts. Publicists have simply taken pen in hand and written from the self-assurance of little knowledge; and have, of course, produced a false effect abroad, damaging to the United States.

There is no good reason for this. The apologists to our friends overseas are far off base and if they took the trouble to inform themselves they would know it. They harken back to a day that is gone and draw on knowledge that is obsolete. There was a day when our average tariff was from *45% to 50%* on dutiable items. Today the average rate is approximately 12% on the dutiable items. However, nearly 60% of all our imports is free of duty altogether. Thus of total imports of nearly $11 billion in 1951, the highest in our history, about $6 billion worth was duty free and about $5 billion paid a duty. Total duty collections amounted to only $600 million. While this was about 12% on the dutiable imports it amounted to less than 6% on our imports as a whole. In other words, taking our whole import trade, we find it burdened less than 6% by the tariff.

This is a very moderate burden indeed and marks the United States as a *low* tariff country. Never in our history has our tariff been lower.

The Department of State has yet to mention these facts in its publicity. Editorial writers have also been phenomenally silent about the same and similar facts. When other countries protest our tariff, as has Britain, as have Italy and Belgium and other European countries, our State Department agrees with them. The Department says nothing publicly to place this country in its true light in this field.

Furthermore, other countries have set up numerous trade barriers beside the tariff. They use import licenses, quotas, exchange controls and other restrictive devices, including outright embargoes. Our use of such barriers has been and is of a minor degree.

The theme song of the tariff alarmists is that we must import if we wish to export. Trade is a two-way and not a one-way street. This is a profound and sage a saying that we must eat if we would live; but it tells us nothing of how much or what we should eat or how often, or how we should go about providing ourselves with food. The trade problem is not quite as simple as the cliches would have us believe.

Another favorite theme is the dollar gap. We cannot go on forever exporting more than we import, unless we are to continue paying for a share of our exports. By thus stating the problem, these soothsayers seem to believe that they have found the solution. It is equivalent to saying that the diagnosis of a disease is also its cure.

Also, they say, we are a creditor country and should behave as one. They overlook the fact that we are a creditor nation by the grace of two world wars and not by the peaceful evolution and development of trade. And, of course, they add that we outproduce the world, as if our industry consisted of nothing but giant mass-producers, such as the automobile industry, the steel industry, the electrical industry, the electrical equipment and appliance industry, the packing industry and similar producers, for a vast mass market.

The fact is that we have many hundreds of nation-wide industries that in their *total* output *do not equal* that of a half-dozen of the giants. These numerous smaller industries do not enjoy the amazing productivity of the great mass producers. Our fishing boats, for example, our dairies, our wool growers, our scientific apparatus makers, our toy and jewelry and hat manufacturers and numerous other producers cannot, from the nature of the productive processes involved, or the capital outlay required, attain the advantages of standardized mass-production.

Has our State Department in any known public statement ever clarified the difference in the competitive standing in the face of imports between these many smaller industries, on the one hand, and the great mass producers, on the other. If so, it has escaped our notice. On the contrary, they have many times expressed the view that if an American industry cannot compete with imports without a tariff, such an industry is inefficient and uneconomic and is not entitled to protection or continuation in business.

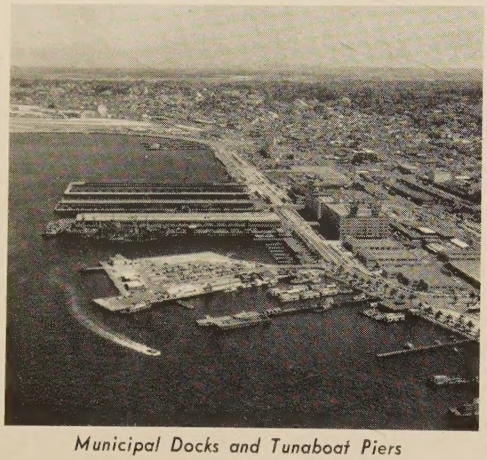
Have they ever called attention to the fact that such industries pay much higher wages than prevail in many other countries that export to us, and that in order to survive under such competition there must be a sufficient margin of protection to create a fair competitive struggle? No! The State Department has over a period of years consistently taken the side of the foreign exporter to our shores.

They have not explained to the protesting nations that our producers pay high minimum wages as required by law, pay social security benefits, grant vacations with pay on a broad scale, pay high federal taxes, and adhere to a maximum hours law, generally 40 hours per week. They have not explained to these countries our farm-price-support program and its upholding of high food prices. If they have, they have whispered their words. Publicity there has been no explanation to these countries how and why their exports

(*Continued on page 25*)

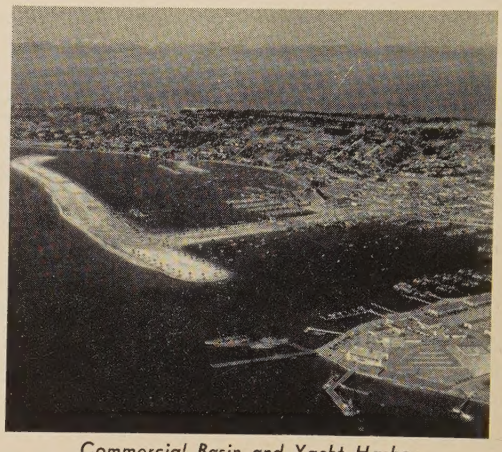
San Diego's Harbor of the Sun

SERVING THE PUBLIC INTEREST

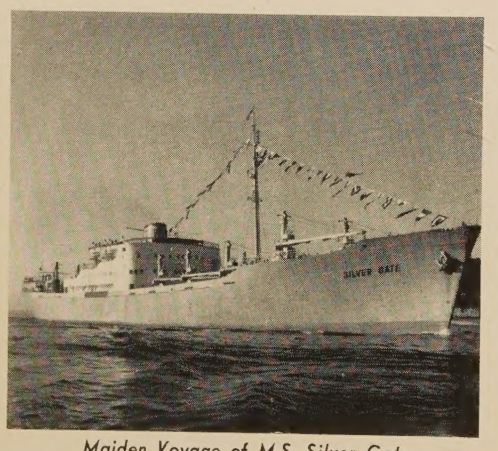


Municipal Docks and Tunaboat Piers

COMMERCE

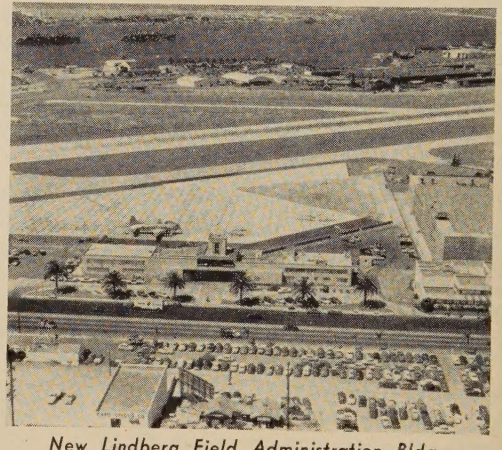


Commercial Basin and Yacht Harbor



Maiden Voyage of M.S. Silver Gate

NAVIGATION



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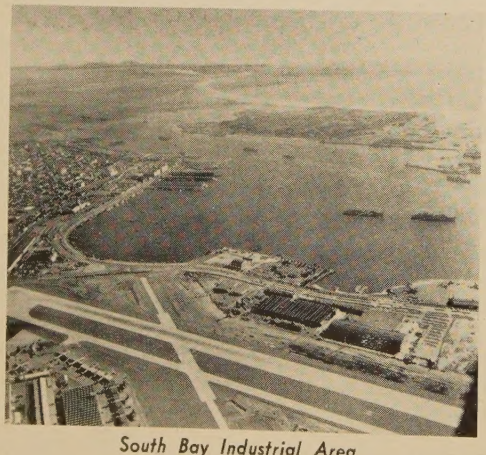
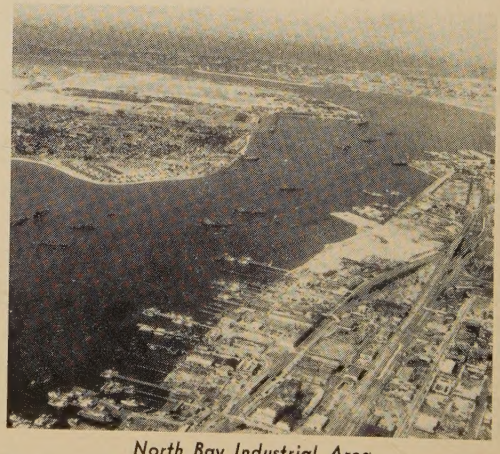


South Bay Industrial Area

FISHERIES



North Bay Industrial Area

PORT OF SAN DIEGO

Harbor Commission, 1040 West Broadway, San Diego, Calif.

PAN-AMERICAN
fisherman
NEWSmagazine of PAN-AMERICAN FISHERIES

EBB 'N FLOW

JULY
1952

APPOINTMENT

Andrew W. Anderson:

Secretary of the Interior Oscar L. Chapman announced today that Andrew W. Anderson, Chief of the Fish and Wildlife Service's Branch of Commercial Fisheries, has been designated as Deputy Administrator of the Defense Fisheries Administration.

Mr. Anderson will assume these new duties in addition to his present assignment for the duration of the DFA program. Milton C. James, who retired as Assistant Director of the Service on March 31, served as DFA Deputy Administrator from its formation until his retirement.

Under a reorganization of DFA effected in December 1951, Mr. Anderson took on additional duties as Chief of the Office of Operations in the defense fisheries organization and assumed responsibility for much of DFA's functional activities.

Mr. Anderson has had long and varied experience in both commercial fishing and in Federal fisheries work. A graduate of the College of Fisheries of the University of Washington, he worked for eight years in the commercial fish meal and oil industry and designed and supervised the erection of reduction plants in California, Norway, Iceland, and Hawaii.

In 1930 he joined the Service as a statistical and marketing agent in the Middle Atlantic States. Later he worked on technological problems, chiefly concerned with the utilization of by-products in the Service laboratories at Gloucester, Mass., and Seattle, Wash. In 1937 he was transferred to the Washington headquarters office where he organized the Service's fishery market news service which, through a Nationwide reporting system, keeps the industry informed on the production, shipments, sales, storage, and imports of fishery products. In August 1943 he succeeded Reginald H. Fiedler as Chief of the Branch of Commercial Fisheries.

Mr. Anderson has served as fishery advisor on the United States delegations to the annual FAO Conferences since 1945. He was also a United States delegate representing the Department of the Interior interests at the Havana Conference which developed the constitution for ITO; served as United States delegate to the FAO Conference in Baguio which established the Indo-Pacific Fisheries Council; and is Department of Interior representative on the FAO Inter-Agency Committee.

Edward David:

Edward David of Monterey and Oxnard, California, a prominent figure in West Coast fishing circles for the past 36 years, is now in Korea as a fisheries analyst and consultant for the United Nation's Civil Assistance Command.

He is working with Major Lawrence Holland of San Pedro, who was the fleet manager for the Southern California Fish Corporation before arriving in Korea a year ago.

David, whose Del Mar Canneries at Warrenton, Oregon, and Hueneme, California, pack tons of fish each year, will work with the Civil Assistance Command, the Civil Assistance Section of the Eighth Army and Korean fishing experts.

"I am very impressed by the Korean fishermen I have met," he said recently. "They are most anxious to learn new methods and are very cooperative. Much of their equipment is worn out or damaged by the war and has been difficult to replace, but they are doing a remarkable job."

During David's stay in the Far East, his wife is living at 554 E. Juniper Street, Oxnard, California. A daughter, Mrs. Constance Malland, lives at 923 Menlo Avenue, Menlo Park, California. David is a member of the Monterey Elk's Lodge No. 1285, the Monterey Kiwanis Club and the Monterey Peninsula Country Club.

George B. Hamilton:

George B. Hamilton has been appointed general manager of the Amino Products Division of International Minerals & Chemical Corporation, according to an announcement by J. R. T. Bishop, vice president in charge of the division.

Mr. Hamilton has been general sales manager of the division since February 1, 1950. He came to International in March, 1947, and in June of that year was appointed sales manager of the Cereal Products Department of the Amino Products Division. Successively, he became bulk sales manager for Accent (monosodium glutamate, a master seasoning that intensifies the natural flavors of many foods) and general sales manager for the division.

He is a graduate of Iowa State College, with a degree in dairy technology, and was active in dairy development work for almost 20 years, particularly in connection with the uses of refined corn sweeteners. He spent three years in the Republic of Haiti as general manager of the interests of several of this country's leading food and beverage manufacturers. Before coming to International he was eastern sales manager for American Maize Products.

He has had articles in trade papers pertaining to the dairy industry and the corn refining industry. In the early 1930's he had an active part in development work in expanding the ice cream industry.

Robert Rowe:

Robert Rowe has been appointed Advertising and Sales Promotion Manager of Radiomarine Corporation of America, A Service of Radio Corporation of America, it was announced today by George F. Shecklen, Executive Vice President.

Mr. Rowe was formerly affiliated with Station WCAU, Philadelphia, as Radio Promotion Director and with RCA Victor Division, Camden, N. J., as Advertising-Sales Promotion Specialist.

A wartime Army veteran, Mr. Rowe is a graduate of the University of Missouri and is a member of the Pen and Pencil Club of Philadelphia and the Junior Chamber of Commerce of Philadelphia. (*Continued on page 22*)

Nutrition Expert
John X. Loughran

50,000 PROTEINS *Can't Be Wrong!*

By

DR. JOHN X. LOUGHRAN

THE proteins, great mysteries of life, are capturing and challenging the brains and the imagination of the scientific world.

In realtion to human life, which is our main concern here, it may come as a surprise to learn that the proteins in a human body are so distinctive, so individual, that science says it will not be long until the *proteins* of a man's blood may be used to identify him from all others on earth, just as exactly and rigorously as do his fingerprints.

At the outset, and in order to draw our attention to what proteins *really are* and what they do for us day by day, we should come to regard a protein as the substance that literally cements the myriad human cells one to the other, the substance that actually holds life itself together as a functioning organism.

The human body contains over a hundred different proteins that have already been identified. Many more remain to be discovered. If that figure seems small, recall that each protein is made up of even tinier life units called amino acids. As there may be twenty different amino acids present in one molecule of protein, it is easy to see that the possible combinations of protein units may vary from several hundred to actually hundreds of thousands. From this it can be comprehended that Nature and the governing intelligence within a human body are afforded many opportunities for variations in the proportions and architecture of proteins and their tinier fractions—the vital amino acids.

A simple analogy may help illumine the mathematics of protein linkages. There are only 52 playing cards in a deck, but the number of possible combinations of the cards run into hundreds of thousands. The infrequency, for instance, of a royal flush appearing in thousands of plays might be likened to the infrequency with which the *perfect* protein combination comes about. This is detected in that most marvelous protein food—the royal jelly of the bees. This rare substance, bee bread or royal jelly, is so remarkable a protein that the single common larvae, selected at random, that is fed upon the royal jelly, grows to three times the size, lives ten times as long and far outstrips in strength, armor and intelligence, the legions of its worker-bee sisters, that are restricted to the mere *ordinary* food of the hive. Such is the nutritive power of a *royal* protein for a *royal* insect—the queen bee.

Without proteins to hold the cells and the glands together in a functioning unit, there can be no life. This *adhesive* property of proteins has been known in a hit-or-miss fashion for most of man's history on earth. Commercially, glue, which is a protein degradation product derived from bones, hooves and hides, as well as isinglass from the swim bladders of many fish, have all been in common use for centuries. Each of these products depends for its effectiveness on the *protein* content. In the bloodstream of life and death, where protein is the mother substance sent out to muscles, blood, glands and brain in our bodies, replacement can come only from the protein in the food that we eat.

For that matter, we are further beholden to protein, for it provides most of the clothes we wear, because leather, wool, silk and furs are all composed of protein. While these latter uses have

(*Continued on page 26*)

Proteins?

Know Your Seafoods

LARGE VARIETY FOR DAILY MENUS

The fishes of the oceans have provided food for the dinner tables of countless millions down through the ages; yet even today many of these dishes are regarded as delicacies. In fact, virtually every fish dish served today falls more or less into the category of a delicacy. This is strange, indeed, yet it is symbolic of the general lack of knowledge in the selection and preparation of seafood dishes.

A great deal has been written and printed with a view to educating the public in the very valuable use of fish as a food. Much of this information has missed the target, perhaps because of the inherent characteristics of most of us to cling to the things we know best. Since women are, by instinct, canny shoppers, fish as a food should most appeal to the average household food budget.

There are sound basic reasons for this statement. A comparison of the actual value obtained in the purchase of a fish steak and a beef steak, both from the same market, should prove enlightening. For example, pound for pound, the fish steak will give you more meat on the table than the beef steak.

In the first place, there is no fat to trim off or to be left on the diner's plate from a fish steak. Cooked, either by broiling or baking, there is considerably less shrinkage in the fish steak. And the multitudes of different manners in which a fish steak can be prepared are many in comparison.

The matter of palatability should not be overlooked either. In this connection, fish do not fall into the same category as beef by any means. A beef steak is a "beef" steak while a fish steak may be any one of several numbers of species, depending upon the individual taste preference.

There is a considerable difference in taste in fish steaks. Many restaurants feature swordfish steaks; yet there are classes of people who regard highly such species as albacore, tuna, white sea bass, black sea bass, yellowtail and numerous other species. While still others maintain a stout preference for whale steaks, and certain kinds of shark are said to provide very succulent steaks.

In whatever manner they may be discussed, all are worthy of at least a trial. And the trial need not be an expensive one for the average budget either. By comparison, the fish steak, in whatever category or specie selected, will prove cheaper in the long run than any beef steak chosen.

According to the United States Fish and Wildlife Service, whale meat steaks are said to be comparable to good beef steak while retailing at from 30 to 40 cents cheaper per pound. One pound of whale steak is said to be sufficient for the serving of four persons. The average beef steak serves about one person to the pound.

SILVERGATE CASSEROLE (Tuna)

Serves 4

Line a low buttered casserole with green onions; individual casseroles are wonderful!

Place four fresh or frozen tuna steaks on the onions and pour over all:

1 can condensed clam chowder
⅛ tsp. pepper
Few grains of cayenne
½ tsp. savory (optional)

Bake at 350° for about 40 min. or till fish flakes separate easily when tested with a fork. When about half done tiny whole canned or cooked and peeled new potatoes may be placed around fish in the casserole. Garnish with parsley sprigs and lemon slices.

To complete a scrumptious meal serve:
Mixed green salad with French dressing (2 parts olive oil, 1 part tarragon vinegar, tinge of garlic, salt and pepper).
Cornbread.

Silvergate Casserole
Baked Fresh Tuna Steaks a la San Diego

PINK TICKETS & PREDICTIONS

Dr. Frances N. Clark
Biologist

A romance of the ocean depths, written on a manuscript about four inches square, is gradually unfolding on the California Coast.

With no final episode in sight, the unfinished narrative provides marine biologists with documented stories about ocean fish which give concrete information on abundance of various species, tendencies toward declining or increasing supplies and other vital facts.

These four-inch-square pieces of paper are a dull pink in color and the information on them, tabulated by the hundreds or thousands for 35 years, is the harvest record that helps scientists plan for better fish crops, provides data for that purpose and helps predict future yields.

This method of compiling California's fish history has brought scientists to this coast from many states and from foreign countries including Australia, New Zealand and Russia.

The story and the miniature manuscripts are found at the marine laboratory of the California Division of Fish and Game on Terminal Island. It is being chronicled among the fish canneries which benefit most as the narrative unfolds. Facts revealed on the pink slips are of great aid to the Fish and Game Commission and the Legislature in providing proper regulations for sport and commercial fish and keeping track of the state's fifth industry.

Standard business machines, ordinarily employed in the drab routine of an office are the guiding factor in unfolding the state's biggest fish story. They sort thousands of cards by fish species and other categories with an uncanny metallic intelligence and print clear, accurate accounts of what is happening to certain kinds of fish in certain parts of the Pacific Ocean.

They have helped both in providing proper regulations and in preventing expensive, unnecessary and damaging regulatory legislation.

At the Terminal Island Laboratory is much of the equipment and personnel engaged in research on marine fish. Here are men working on sport fish, those who know what sport fish are abundant and why and what to do about declining populations. Here is the young lady who can tell you the age and sex of a sardine, the sardine skeleton specialist and the man who knows all about jack mackerel. All of these and many more have information which bears directly on matters pertaining to sustained yields of sport and commercial fish.

Here, also, is the fisheries library and office of Dr. Frances N. Clark, the small, alert lady who guides the broad and important work of the laboratory.

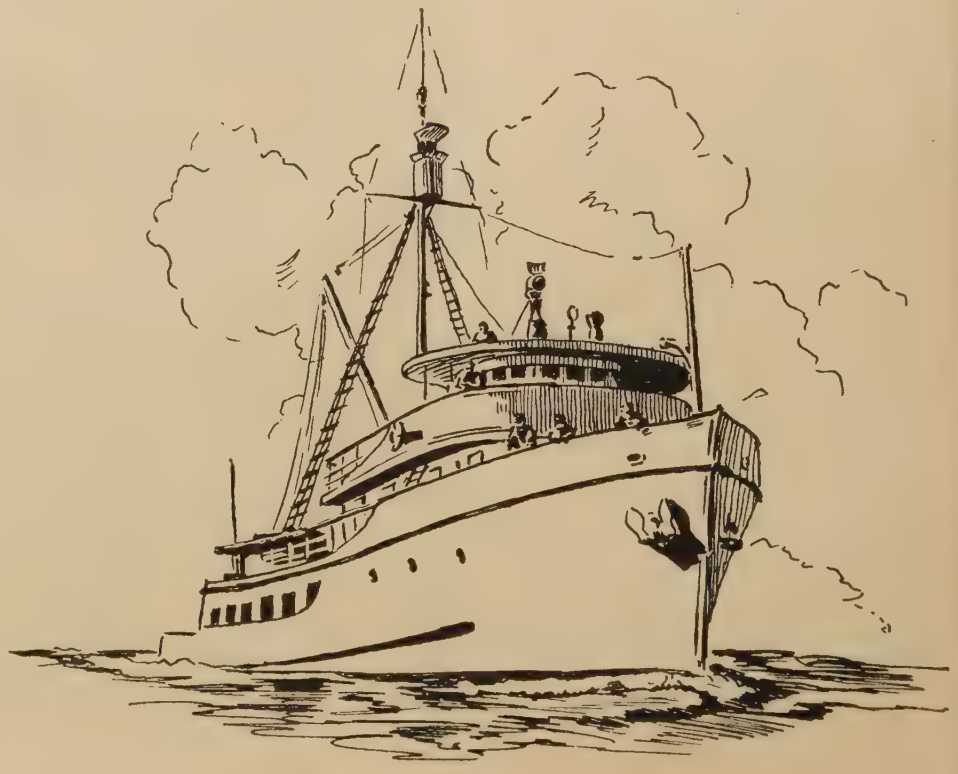
An employee of the California Division of Fish and Game for 25 years, Dr. Clark is in charge of all the far-flung functions of the Terminal Island laboratory. This includes operation of research vessels and statistical work concerning the little pink tickets.

It is in the statistical building where the pink slips reign supreme and plot their story of the ocean depths. Thousands of the slips are tucked away in their permanent homes in the basement. Having established the first system of its kind in the world, they have composed their annals of fish history. However, they become more valuable with age because they are the documents that record California's fish and fishing fortunes.

A close look at these small pink slips reveals they are just receipts—receipts given to commercial fishermen by dealers who buy their fish.

The receipt forms are supplied by the Division of Fish and Game and the dealer is required by law to fill out one

(*Continued on page 27*)



PROGRESS & PRODUCTION

SHRIMP-IN-A-JACKET GOES GOURMET!

Before and after photos illustrate the principle that good packaging sells more product. Eye-catching, the life-like full color illustration shows Sea-Pak Corporation's shrimp-in-a-jacket cooked and ready-to-serve. The company's red pilot wheel trademark means easy brand recognition by consumers. New package designed by Gordon Baird Associated and manufactured by Marathon Corp., Menasha, Wis., for SeaPak, a leading packer of individually flash-frozen seafoods, St. Simons Island, Ga.

HAYSSEN WRAPPING MACHINES

Jobbers of Hayssen Wrapping Machines stand to gain increased sales following up higher quality inquiries already reported from the new promotion program for 1952 of Hayssen Manufacturing Company. According to Ralph C. Russell, General Sales Manager, the new program is based on the premise that full pages will more properly reflect the high position of Hayssen in the wrapping machine industry. In previous years one-third and one-half pages have been used. The new campaign is running in twenty-seven trade papers, reaching every industry in which Hayssen Wrapping Machines are used—food, baked goods, dairy products, meats, paper, textiles, etc.

The general appearance of the advertisements has also been changed to incorporate a redesigned trade mark and a new logotype base which pictures in miniature many of the different types of packages which Hayssen machines wrap. The top of each advertisement also has a "family" resemblance. The main illustration consists of the packaged product which applies in each case to the industry which the publication used represents.

The story of the advertising discusses packaging problems in the language of each particular industry, emphasizes the application of Hayssen Machines to the reader's own industry. The "key note" of each advertisement is the long 42-year record of Hayseen wrapping machines and the low initial cost.

Another factor in 1952 promotional planning is more extensive representation at trade shows. A compact portable display booth background was designed so that it can be quickly assembled or knocked down for use at different shows.

It was first used at the 21st National Packaging Exposition in Atlantic City in April and was featured in a 30-ft. booth. Two of the newest Hayssen units were exhibited in actual commercial operation. One was the new Hayssen V-Type underfold which produces a moisture-proof package and gives the product extra protection from adverse conditions. Sample memo pads were wrapped in cellophane printed by Milprint on this machine. The second machine was the Hayssen Automatic Accumulator and Bundler which accumulates a multiple number of individual packages and wraps them into a kraft paper bundle. Dummy packages of ice cream pints were demonstrated on the machine.

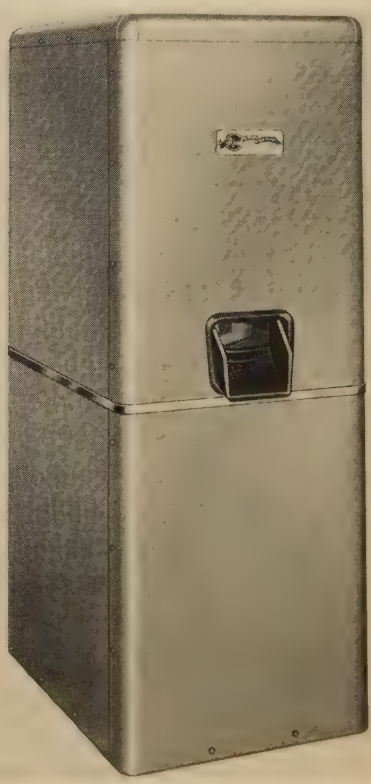
The Hayssen Sales Promotion program is under the direction of Ralph C. Russell, General Sales Manager, whose previous experience includes 14 years as Manager of DuPont's Engineering Service Department, Cellophane Division, and 8 years as sales manager of Oliver Machinery Company, Grand Rapids, Michigan. Already the impact of the new program is being felt not only in increased returns but in higher quality inquiries.

Hayssen, one of the world's largest manufacturers of wrapping machines, was founded forty-two years ago by the grandfather of William A. Hayssen, who is now President. It produces over 30 different models. One hundred and twenty-five people are employed at the Sheboygan plant and in addition to its regular production schedule, the Company is at present building bread wrapping and slicing machines for the U. S. Army and U. S. Navy.

AJAX ICE FLAKER MACHINE

A newly designed ice flaker machine, capable of producing 100 pounds of ice for 6 cents, has been placed on the market by the Ajax Corporation of America. The machine, automatic throughout, features a new exterior and many refinements within.

Increased ice production efficency cuts operational expense to a minimum. The user simply flips a switch . . . within a few minutes the machine is depositing ice flakes into a storage container. *(Continued on page 22)*



EXPOSITION

(Western Packaging and Materials Handling)

One hundred thirty-two of the nation's leading firms in the packaging industry and the materials handling industry had already contracted for exhibit space in the Fourth Western Packaging and Materials Handling Exposition when this issue went to press. During the next two months, prior to its opening which is scheduled in the Shrine Convention Hall in Los Angeles August 12-14, it is expected that the exhibitor list will near the 200 mark, making this by far the largest and most comprehensive Packaging and Materials Handling Exposition ever held in the West.

The first three Expositions, which were held in San Francisco, served not only to bring about a cohesion and unified purpose within these industries, but even more underscored the importance of modern, efficient packaging and the economic handling, moving, storing and shipping of all types of commodities to all fields of manufacturing and producing.

It is little wonder when this Exposition was brought for the first time to Los Angeles after three years of highly successful development, that not only the packaging and material handling industries themselves, but the entire field of agriculture and manufacturing, which have grown so vigorously in the postwar Western economy, rallied enthusiastically to participate in the project.

From the day it was determined to present this Exposition in the Southland, the Los Angeles Chamber of Commerce and various civic industrial organizations commenced marshalling business leaders for an all-out promotion of the show.

The Western Packaging Association, which had taken leadership in programming previous expositions, carried on with redoubled efforts in active participation and promotion among its membership.

Indicative of the high interest and enthusiasm is the decision by the University of Southern California's Industrial Engineering Department to hold, concurrently, a Packaging and Materials Handling Institute in close cooperation with the Exposition.

San Francisco's Exposition Floor

Also, the decision to add an outdoor display for which, according to Saul Poliak of the New York Exposition Management firm of Clapp and Poliak, directing the show, the climate of Los Angeles is ideally adapted.

The outdoor display, which will take up most of the large parking area adjoining the Shrine Convention Hall, will make possible for the first time the actual demonstration of heavy mobile materials handling equipment now becoming increasingly important to the industry.

The exhibit space within the Shrine Convention Hall will occupy the entire ground floor and the mezzanine, which completely surrounds it. This, together with the open air area, make available sufficient space to accommodate the greatly expanded list of exhibitors.

The Exposition itself is designed to demonstrate all types of packaging operations from the designing and engineering stages through each movement to the final completion of its mission. It, likewise, delineates the problems of moving, storing, shipping and general handling of various types of materials, commodities and plant processings with the ever important objective of trimming operational costs by eliminating the unnecessary and by the use of the most efficient type of equipment to do the specific job. In this respect the institute conducted by the University of Southern California, whose campus buildings are within the immediate neighborhood of the Shrine Auditorium, will attack problems via the clinic, discussion and lecture route.

The scheduled sessions on the morning of August 13 and 14 will be conducted by top authorities on their subjects. They will cover such matters of basic interest as methods of changing over from mobile to conveyorized handling and specific techniques for solving various types of material handling problems. Several short sessions will be conducted each morning and will include, as well as general question and answer discussions, actual workshop methods and demonstrations.

The Institute will be under the direction of John R. Huffman, Associate Professor of Industrial Engineering of the University of Southern California.

W. M. Chapman

Director of Research
American Tunaboat Association

THE CONTINENTAL SHELF

By

W. M. CHAPMAN

PART II. RELATED SUBJECTS

RESOURCES OF THE SEA

ARTICLE 1.

States whose nationals are engaged in fishing in any area of the high seas may regulate and control fishing activities in such area for the purpose of preserving its resources from extermination. If the nationals of several States are thus engaged in an area, such measures shall be taken by those States in concert; if the nationals of only one State are thus engaged in a given area, that State may take such measures in the area. If any part of an area is situated within 100 miles of the territorial waters of a coastal State, that State is entitled to take part on an equal footing in any system of regulation, even though its nationals do not carry on fishing in the area. In no circumstances, however, may an area be closed to nationals of other States wishing to engage in fishing activities.

ARTICLE 2.

Competence should be conferred on a permanent international body to conduct continuous investigations of the world's fisheries and the methods employed in exploiting them. Such body should also be empowered to make regulations for conservatory measures to be applied by the States whose nationals are engaged in fishing in any particular area where the States concerned are unable to agree among themselves.

1. The question of conservation of the resources of the sea has been coupled with the claims to the continental shelf advanced by some States in recent years, but the two subjects seem to be quite distinct, and for this reason they have been separately dealt with.

2. Protection of marine fauna against extermination is called for in the interests of safeguarding the world's food supply. The States whose nationals carry on fishing in a particular area have therefore a special responsibility, and they could agree among them as to the regulations to be applied in that area. Where nationals of only one State are thus engaged in an area, the responsibility rests with that State. However, the exercise of the right to prescribe conservatory measures should not exclude newcomers from participation in fishing in any area. Where a fishing area is so close to a coast that regulations or the failure to adopt regulations might affect the fishing in the territorial water of a coastal State, that State should be entitled to participate in drawing up regulations to be applied even though its nationals do not fish in the area.

3. This system might prove ineffective if the interested States were unable to reach agreement. The best way of overcoming the difficulty would be to set up a permanent body which, in the event of disagreement, would be competent to submit rules which the States would be required to observe in respect of fishing activities by their nationals in the waters in question. This matter would seem to lie within the general competence of the United Nations Food and Agriculture Organization.

4. The pollution of waters of the high seas presents special problems, not only with regard to the conservation of the resources of the sea but also with regard to the protection of other interests. The Commission noted that the Economic and Social Council has taken an initiative in this matter (resolution 298 C (XI), of 12 July 1950).

5. The Commission discussed a proposal that a coastal State should be empowered to lay down conservatory regulations to be applied in a zone contiguous to its territorial waters, pending the establishment of the body referred to in paragraph 3. Such regulations would as far as possible have to be drawn up in agreement with the other States interested in the fishing grounds in question. They would make no distinction between the nationals of the various States, including the coastal State. Any disputes arising out of the application of the rules would have to be submitted to arbitration. The figure of 200 sea miles was suggested as the breadth of the zone. In view of the fact that there was an equality of votes concerning the desirability of this proposal, the Commission decided to mention it in its report without sponsoring it.

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Radiotelephone . . .
and the Tuna Fisherman

By
HARRY W. DEPERT

Harry W. Depert
San Diego District Manager,
The Pacific Telephone and Telegraph Company

RADIOTELEPHONE service has been characterized by two main developments during the past year as it affects the Southland's vast fishing industry. One is the growing use of the long-range high seas service, which is probably the most practical for the tuna fleet. The other is the increasing number of vessels employing the crowded coastal harbor service with its medium-range limitations.

Fleet operators have long been aware of the advantages as well as the limitations of coastal harbor radio-telephone service in the 2 to 3 megacycle frequency band. When The Pacific Telephone and Telegraph Company established station KOU in 1936, service was provided to properly equipped vessels operating generally within 300 miles of the transmitter and receiver station so they could be connected with practically any telephone in the United States for direct voice communication. At that time one channel was sufficient for all boats subscribing to the service; the only limitations were in the matter of range. Coastal harbor service is intended to meet medium-range requirements of craft operating generally within 300 miles of the receiving station.

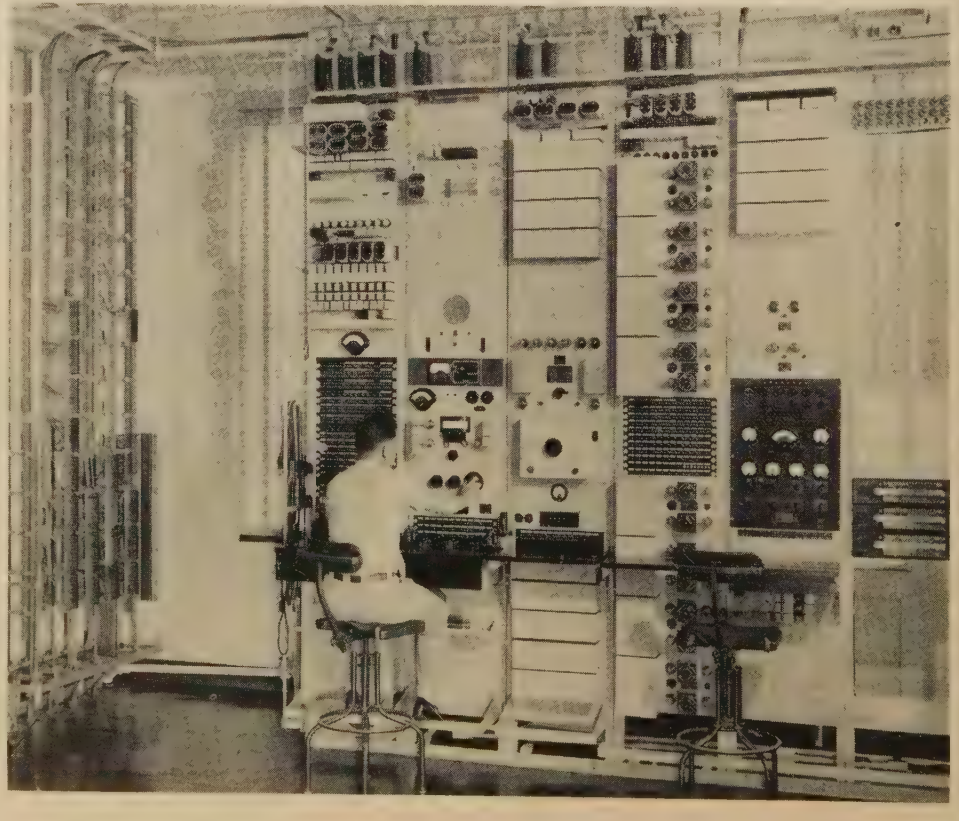
As the fishing fleet grew and more and more operators found the advantages of communicating direct with land telephones, the list of subscribers to this huge "party line" increased at a terrific rate. In 1940 there were less than 600 vessels equipped for the service. In 1948, soon after the first post-war World Communications Conference, Pacific Telephone applied to the Federal Communications Commission for authority to create a new channel to provide relief on the crowded circuit. Meanwhile the number of craft had grown to 1,500. Today more than 3,000 boats have registered with the company for the service, a gain of 500 since last year.

While authority to establish the new channel has not yet been received, it is believed that some FCC problems first must be solved. Since certain radio frequencies travel throughout the world, they are accessible to anyone. Assignment of frequencies to any segment of the world's population, then, involves international considerations. These considerations must be concluded between various nations over the treaty tables—a long and delayed accomplishment at best.

Provision of another channel would help alleviate some of the overcrowded communications on the present channel, but, unless frequencies other than those in the 2 to 3 megacycle band were assigned, the range limits would remain the same.

Since the coastal harbor service was first provided, large-scale operations of the tuna fleet have extended far beyond the range limits of the 2 to 3 megacycle band, reducing the effectiveness of this type of service for the specialized requirements of the industry. Of course, some operators take advantage of night time transmission characteristics and use the channel from points far beyond the 300-mile limit. There is even some reception in excess of 1,500 miles away. But these communications have been on a hit-or-miss basis and long-range usage has been successful only under very favorable atmospheric and geographic conditions. For locations no farther south than Guadalupe Island,

(*Continued on page 27*)



T. C. Atkins
Associate Producer-Director
New World Productions

The TUNA STORY

By T. C. ATKINS

No advertising on the earth today pays dividends in direct proportion to the investment, plus returning the original outlay—that is, except MOTION PICTURES. T. C. Atkins, noted writer, producer, director with 10 years experience in the field, and with such pictures as THE SILVER STREAK, (story of the Burlington Railroad) which grossed more than a million dollars; THE SILVER HORDE, (story of the great Alaskan Salmon industry) a close second, among others, tells us how MOTION PICTURES can do this for The Tuna Industry.

HISTORY records the disasters of our country in war, in great conflagrations, in devastating floods, earthquakes and destructive storms, but those which are economic only and where they concern single groups of our people are rarely recorded. It was with much interest, therefore, that I learned from a friend of the current critical situation in the tuna industry and the unfair position in which it is placed by the present world situation. Or, perhaps I should say, by the administration's views as to our foreign policy.

I have traveled over much of the world in my operations and have been close to business problems in many lines of endeavor, so I can hardly be insensible to a situation in which an industry that gave so much in men and materials to the recent war should now be throttled by a foreign policy which threatens it with extinction.

It certainly provides a poor example of the principle of enterprise on a free competitive basis in which we claim so great a pride.

The history of the tuna industry over its nearly fifty years of operation certainly gives it an unquestioned place in our economic structure deserving of every fair means for survival.

The deliberate curtailment of markets to raise prices has had a long trial in this country and it seems apparent that it has fallen far short of convincing us of its soundness as a policy. The day of "plowing the little pigs under" is over.

The more consumer goods available, the better we live—no simpler reason for expanding markets and the effort to supply them is needed.

To the tuna industry this basic truth spells salvation.

There seems little likelihood that help will come from government agencies in the form of regulation of imports sufficient to be of material help at this time. So—the industry must do the job itself. And that means the whole industry, from shipyard and fishermen on through the packers, distributors and sales forces.

This sounds like a tremendous program. Perhaps it is but it is already conceded that such a program is necessary and the situation becomes daily so serious that only the closest industry-wide cooperation can meet the issue.

With these truths so apparent, it is difficult to understand why every effort has not been made toward the one program offering the widest and most immediate results.

There is no phase of the present situation that a hundred per cent increase in market will not solve.

If the housewives of the nation used tuna to the extent that it is normally used on the Pacific Coast, no industry

(*Continued on page 29*)

"The Silver Horde"
On Location Shooting the Story of the Great Alaskan Salmon Industry

NORTH PACIFIC FISHERIES CONVENTION

North Pacific Fisheries Convention

The international convention for the high seas fisheries of the North Pacific Ocean was signed today at Tokyo by representatives of the United States, Canada, and Japan. Ambassador Robert D. Murphy signed on behalf of the United States. The convention will be submitted to the Senate with a view to receiving the advice and consent of that body to ratification. It will enter into force on the day upon which the contracting parties exchange ratifications.

The convention, which was negotiated at the Tripartite Fisheries Conference held at Tokyo in late 1951, marks a further step in the conservation of international fisheries in the North Pacific Ocean. Japan now becomes a joint partner with the United States and Canada in cooperative measures to preserve and perpetuate the fish stocks of the North Pacific.

The convention introduces a new principle in international conservation practice on the high seas. Under it special treatment is accorded to fisheries already fully utilized and fully conserved. Each signatory agrees to abstain from exploitation of specified fish stocks which are already exploited to the maximum by one or both of the other parties provided the latter are carrying out programs for the conservation of the stocks and agree to continue to carry out such programs.

The convention establishes the International North Pacific Fisheries Commission composed of representatives of the three countries, each with equal vote. The Commission is empowered to investigate any fish stock of the North Pacific Ocean exploited by two or more of the parties and, when necessary, to recommend joint conservation action to the governments concerned. Excepted from such study and recommendation, however, are fisheries already covered by agreements between the parties, such as the Pacific halibut and sockeye salmon fisheries.

In the special case of fully utilized and conserved fisheries, the Commission may recommend that the country or countries not exploiting the stock refrain from such exploitation. The convention prodvides, however, that no such abstention should be requested of any parties in waters in which there has been a history of joint conservation activity by such parties, an intermingling of their fleets, and an intermingling of the stocks of fish exploited by their fleets Accordingly, the convention stipulates that neither the United States nor Canada shall be asked to abstain from any stock in waters off the Pacific Coast of either country from the Gulf of Alaska southward.

To qualify under the abstention proviso, a fishery stock must be fully exploited and be under continuous study and regulation for conservation purposes. The convention recognizes three stocks, salmon, halibut, and herring, off the coasts of North America as meeting these conditions. Accordingly, by the terms of the convention, Japan agrees to abstain from fishing salmon, halibut, and herring in specified waters off the coasts of North America; and Canada agrees to abstain from fishing salmon in the Bering Sea east of 175 degrees west longitude.

Also signed today was a protocol to the convention, providing for further study and final determination of the lines bounding the salman areas. These lines are tentatively set by the convention.

The text of the convention and protocol follows:

International Convention for the High Seas Fisheries of the North Pacific Ocean

The Governments of the United States of America, Canada and Japan, whose respective duly accredited representatives have subscribed hereto,

Acting as sovereign nations in the light of their rights under the principles of international law and custom to exploit the fishery resources of the high seas, and

Believing that it will best serve the common interest of mankind, as well as the interests of the Contracting Parties, to ensure the maximum sustained productivity of the fishery resources of the North Pacific Ocean, and that each of the parties should assume an obligation, on a free and equal footing, to encourage the conservation of such resources, and

Recognizing that in view of these considerations it is highly desirable (1) to establish an International Commission, representing the three Parties hereto, to promote and coordinate the scientific studies necessary to ascertain the conservation measures required to secure the maximum sustained productivity of fisheries of joint interest to the Contracting Parties and to recommend such measures to such Parties and (2) that each Party carry out such conservation recommendations, and provide for necessary restraints on its own nationals and fishing vessels.

Therefore agree as follows:

ARTICLE I

1. The area to which this Convention applies, hereinafter referred to as "the Convention area", shall be all waters, other than territorial waters, of the North Pacific Ocean which for the purposes hereof shall include the adjacent seas.

2. Nothing in this Convention shall be deemed to affect adversely (prejudice) the claims of any Contracting Party in regard to the limits of territorial waters or to the jurisdiction of a coastal state over fisheries.

3. For the purposes of this Convention the term "fishing vessel" shall mean any vessel engaged in catching fish or processing or transporting fish loaded on the high seas, or any vessel outfitted for such activities.

ARTICLE II

1. In order to realize the objectives of this Convention, the Contracting Parties shall establish and maintain the International North Pacific Fisheries Commission, hereinafter referred to as "the Commission."

2. The Commission shall be composed of three national sections, each consisting of not more than four members appointed by the governments of the respective Contracting Parties.

3. Each national section shall have one vote. All resolutions, recommendations and other decisions of the Commission shall be made only by a unanimous vote of the three national sections except when under the provisions of Article III, Section 1(c) (ii) only two participate.

4. The Commission may decide upon and amend, as occasion may require, by-laws or rules for the conduct of its meetings.

5. The Commission shall meet at least once each year and at such other times as may be requested by a majority of the national sections. The date and place of the first meeting shall be determined by agreement between the Contracting Parties.

6. At its first meeting the Commission shall select a Chairman, Vice-Chairman and Secretary from different national sections. The Chairman, Vice-Chairman and Secretary shall hold office for a period of one year. During succeeding years selection of a Chairman, Vice-Chairman and Secretary from the national sections shall be made in such manner as will provide each Contracting Party in turn with representation in those offices.

7. The Commission shall decide on a convenient place for the establishment of the Commission's headquarters.

8. Each Contracting Party may establish an Advisory Committee for its national sectoin, to be composed of persons who shall be well informed concerning North Pacific fishery problems of common concern. Each such Advisory Committee shall be invited to attend all sessions of the Commission except those which the Commission decides to be **in camera.**

9. The Commision may hold public hearings. Each national section may also hold public hearings within its own country.

10. The official languages of the Commission shall be Japanese and English. Proposals and data may be submitted to the Commission in either language.

11. Each Contracting Party shall determine and pay the expenses incurred by its national section. Joint expenses incurred by the Commission shall be paid by the Commission through contributions made by the Contracting Parties in the form and proportion recommended by the Commission and approved by the Contracting Parties.

12. An annual budget of joint expenses shall be recommended by the Commission and submitted to the Contracting Parties for approval.

13. The Commission shall authorize the disbursement of funds for the joint expenses of the Commission and may employ personnel and acquire facilities necessary for the performance of its functions.

ARTICLE III

1. The Commission shall perform the following functions:

(a) In regard to any stock of fish specified in the Annex, study for the purpose of determining annually whether such stock continues to qualify for abstention under the provisions of Article IV. If the Commission determines that such stock no longer meets the conditions of Article IV, the Commission shall recommend that it be removed from the Annex. Provided, however, that with respect to the stocks of fish originally specified in the Annex, no determination or recommendation as to whether such stock continues to qualify for abstention shall be made for five years after the entry into force of this Convention.

(b) To permit later additions to the Annex, study, on request of a Contracting Party, any stock of fish of the Convention area, the greater part of which is harvested by one or more of the Contracting Parties, for the purpose of determining whether such stock qualifies for abstention under the provisions of Article IV. If the Commission decides that the particular stock fulfills the conditions of Article IV it shall recommend, (1) that such stock be added to the Annex, (2) that the appropriate Party or Parties abstain from fishing such stock and (3) that the Party or Parties participating in the fishing of such stock continue to carry out necessary conservation measures.

(c) In regard to any stock of fish in the Convention area;

(i) Study, on request of any Contracting Party concerned, any stock of fish which is under substantial exploitation by two or more of the Contracting Parties, and which is not covered by a conservation agreement between such Parties existing at the time of the conclusion of this Convention, for the purpose of determining need for joint conservation measures;

(ii) Decide and recommend necessary joint conservation measures including any relaxation thereof to be taken as a result of such study. Provided, however, that only the national sections of the Contracting Parties

engaged in substantial exploitation of such stock of fish may participate in such decision and recommendation. The decisions and recommendations shall be reported regularly to all the Contracting Parties, but shall apply only to the Contracting Parties the national sections of which participated in the decisions and recommendations.

(iii) Request the Contracting Party or Parties concerned to report regularly the conservation measures adopted from time to time with regard to the stocks of fish specified in the Annex, whether or not covered by conservation agreements between the Contracting Parties, and transmit such information to the other Contracting Party or Parties.

(d) Consider and make recommendations to the Contracting Parties concerning the enactment of schedules of equivalent penalties for violations of this Convention.

(e) Compile and study the records provided by the Contracting Parties pursuant to Article VIII.

(f) Submit annually to each Contracting Party a report on the Commission's operations, investigations and findings, with appropriate recommendations, and inform each Contracting Party, whenever it is deemed advisable, on any matter relating to the objectives of this Convention.

2. The Commission may take such steps, in agreement with the Parties concerned, as will enable it to determine the extent to which the undertakings agreed to by the Parties under the provisions of Article V, Section 2 and the measures recommended by the Commission under the provisions of this Article and accepted by the Parties concerned have been effective.

3. In the performance of its functions, the Commission shall, insofar as feasible, utilize the technical and scientific services of, and information from, official agencies of the Contracting Parties and their political subdivisions and may, when desirable and if available, utilize the services of, and information from, any public or private institution or organization or any private individual.

ARTICLE IV

1. In making its recommendations the Commission shall be guided by the spirit and intent of this Convention and by the considerations below mentioned.

(a) Any conservation measures for any stock of fish decided upon under the provisions of this Convention shall be recommended for equal application to all Parties engaged in substantial exploitation of such stock.

(b) With regard to any stock of fish which the Commission determines reasonably satisfies all the following conditions, a recommendation shall be made as provided for in Article III, Section 1, (b).

(i) Evidence based upon scientific research indicates that more intensive exploitation of the stock will not provide a substantial increase in yield which can be sustained year after year,

(ii) The exploitation of the stock is limited or otherwise regulated through legal measures by each Party which is substantially engaged in its exploitation, for the purpose of maintaining or increasing its maximum sustained productivity; such limitations and regulations being in accordance with conservation programs based upon scientific research, and

(iii) The stock is the subject of extensive scientific study designed to discover whether the stock is being fully utilized and the conditions necessary for maintaining its maximum sustained productivity.

Provided, however, that no recommendation shall be made for abstention by a Contracting Party concerned with regard to: (1) any stock of fish which at any time during the twenty five years next preceding the entry into force of this Convention has been under substantial exploitation by that Party having regard to the conditions referred to in Section 2 of this Article; (2) any stock of fish which is harvested in greater part by a country or countries not party to this Convention; (3) waters in which there is historic intermingling of fishing operations of the Parties concerned, intermingling of the stocks of fish exploited by these operations, and a long established history of joint conservation and regulation among the Parties concerned so that there is consequent impracticability of segregating the operations and administering control. It is recognized that the conditions specified in subdivision (3) of this proviso apply to Canada and the United States of America in the waters off the Pacific Coasts of the United States of America and Canada from and including the waters of the Gulf of Alaska southward and, therefore, no recommendation shall be made for abstention by either the United States of America or Canada in such waters.

2. In any decision or recommendation allowances shall be made for the effect of strikes, wars, or exceptional economic or biological conditions which may have introduced temporary declines in or suspension of productivity, exploitation, or management of the stock of fish concerned.

ARTICLE V

1. The Annex attached hereto forms an integral part of this Convention. All references to "Convention" shall be understood as including the said Annex either in its pres-

(Continued on next page)

ent terms or as amended in accordance with the provisions of Article VII.

2. The Contracting Parties recognize that any stock of fish originally specified in the Annex to this Convention fulfills the conditions prescribed in Article IV and accordingly agree that the appropriate Party or Parties shall abstain from fishing such stock and the Party or Parties participating in the fishing of such stock shall continue to carry out necessary conservation measures.

ARTICLE VI

In the event that it shall come to the attention of any of the Contracting Parties that the nationals or fishing vessels of any country which is not a Party to this Convention appear to affect adversely the operations of the Commission or the carrying out of the objectives of this Convention, such Party shall call the matter to the attention of other Contracting Parties. All the Contracting Parties agree upon the request of such Party to confer upon the steps to be taken towards obviating such adverse effects or relieving any Contracting Party from such adverse effects.

ARTICLE VII

1. The Annex to this Convention shall be considered amended from the date upon which the Commission receives notification from all the Contracting Parties of acceptance of a recommendation to amend the Annex made by the Commission in accordance with the provisions of Article III, Section 1 or of the Protocol to this Convention.

2. The Commission shall notify all the Contracting Parties of the date of receipt of each notification of acceptance of an amendment to the Annex.

ARTICLE VIII

The Contracting Parties agree to keep as far as practicable all records requested by the Commission and to furnish compilations of such records and other information upon request of the Commission. No Contracting Party shall be required hereunder to provide the records of individual operations.

ARTICLE IX

1. The Contracting Parties agree as follows:

(a) With regard to a stock of fish from the exploitation of which any Contracting Party has agreed to abstain, the nationals and fishing vessels of such Contracting Party are prohibited from engaging in the exploitation of such stock of fish in waters specified in the Annex, and from loading, processing, possessing, or transporting such fish in such waters.

(b)) With regard to a stock of fish for which a Contracting Party has agreed to continue to carry out conservation measures, the nationals and fishing vessels of such Party are prohibited from engaging in fishing activities in waters specified in the Annex in violation of regulations established under such conservation measures.

2. Each Contracting Party agrees, for the purpose of rendering effective the provisions of this Convention, to enact and enforce necessary laws and regulations, with regard to its nationals and fishing vessels, with appropriate penalties against violations thereof and to transmit to the Commission a report on any action taken by it with regard thereto.

ARTICLE X

1. The Contracting Parties agree, in order to carry out faithfully the provisions of this Convention, to cooperate with each other in taking appropriate and effective measures and accordingly agree as follows:

(a) When a fishing vessel of a Contracting Party has been found in waters in which that Party has agreed to abstain from exploitation in accordance with the provisions of this Convention, the duly authorized officials of any Contracting Party may board such vessel to inspect its equipment, books, documents, and other articles and question the persons on board.

Such officials shall present credentials issued by their respective Governments if requested by the master of the vessel.

(b) When any such person or fishing vessel is actually engaged in operations in violation of the provisions of this Convention, or there is reasonable ground to believe was obviously so engaged immediately prior to boarding of such vessel by any such official, the latter may arrest or seize such person or vessel. In that case, the Contracting Party to which the official belongs shall notify the Contracting Party to which such person or vessel belongs of such arrest or seizure, and shall deliver such vessel or person as promptly as practicable to the authorized officials of the Contracting Party to which such vessel or person belongs at a place to be agreed upon by both Parties. Provided, that when the Contracting Party which receives such notification cannot immediately accept delivery and makes request, the Contracting Party which gives such notification may keep such person or vessel under surveillance within its own territory, under the conditions agreed upon by both of the Contracting Parties.

(c) Only the authorities of the Party to which the above-mentioned person or fishing vessel belongs may try the offense and impose penalties therefor. The witnesses and evidence necessary for establishing the offense, so far as they are under the control of any of the Parties to this Convention, shall be furnished as promptly as possible to the Contracting Party having jurisdiction to try the offense.

2. With regard to the nationals or fishing vessels of one or more Contracting Parties in waters with respect to which they have agreed to continue to carry out conservation measures for certain stocks of fish in accordance with the provisions of this Convention, the Contracting Parties concerned shall carry out enforcement severally or jointly. In that case, the Contracting Parties concerned agree to report periodically through the Commission to the Contracting Party which has agreed to abstain from the exploitation of such stocks of fish on the enforcement conditions, and also if requested, to provide opportunity for observation of the conduct of enforcement.

3. The Contracting Parties agree to meet, during the sixth year of the operation of this Convention, to review the effectiveness of the enforcement provisions of this Article and, if desirable, to consider means by which they may more effectively be carried out.

ARTICLE XI

1. This Convention shall be ratified by the Contracting Parties in accordance with their respective constitutional processes and the instruments of ratification shall be exchanged as soon as possible at Tokyo.

2. This Convention shall enter into force on the date of the exchange of ratifications. It shall continue in force for a period of ten years and thereafter until one year from the day on which a Contracting Party shall give notice to the other Contracting Parties of an intention of terminating the Convention, whereupon it shall terminate as to all Contracting Parties.

IN WITNESS WHEREOF, the representative Plenipotentiaries, duly authorized, have signed the present Convention.

DONE in triplicate, in the English and Japanese languages, both equally authentic, at Tokyo, this ninth day of May one thousand nine hundred fifty-two.

ANNEX

1. With regard to the stocks of fish in the respective waters named below, Japan agrees to abstain from fishing, and Canada and the United States of America agree to continue to carry out necessary conservation measures, in accordance with the provisions of Article V, Section 2 of this Convention:

(a) Halibut (Hippoglossus stenolepis)

The Convention area off the coasts of Canada and the United States of America in which commercial fishing for Halibut is being or can be prosecuted. Halibut referred to herein shall be those originating along the coast of North America.

(b) Herring (Clupea pallasii)

The Convention area off the coasts of Canada and the United States of America, exclusive of the Bering Sea and of the waters of the North Pacific Ocean west of the meridian passing through the extremity of the Alaskan Peninsula, in which commercial fishing for herring of North American origin is being or can be prosecuted.

(c) Salmon (Oncorhynchus gorbuscha, Oncorhynchus keta, Oncorhynchus kisutch, Oncorhynchus nerka, Oncorhynchus tschawytscha)

The Convention area off the coasts of Canada and the United States of America, exclusive of the Bering Sea and of the waters of the North Pacific Ocean west of a provisional line following the meridian passing through the western extremity of Atka Island, in which commercial fishing for salmon originating in the rivers of Canada and the United States of America is being or can be prosecuted.

2. With regard to the stocks of fish in the respective waters named below, Canada and Japan agree to abstain from fishing, and the United States of America agrees to continue to carry out necessary conservation measures, in accordance with the provisions of Article V, Section 2 of this Convention:

Salmon (Oncorhynchus gorbuscha, Oncorhynchus keta, Oncorhynchus kisutch, Oncorhynchus nerka and Oncorhynchus tschawytscha)

The Convention area of the Bering Sea east of the line starting from Cape Prince of Wales on the west coast of Alaska, running westward to 168° 58′ 22.59″ West Longitude; thence due south to a point 65° 15′ 100″ North Latitude; thence along the great circle course which passes through 51° North Latitude and 167° East Longitude, to its intersection with meridian 175° West Longitude; thence south along a provisional line which follows this meridian to the territorial waters limit of Atka Island; in which commercial fishing for salmon originating in the rivers of the United States of America is being or can be prosecuted.

Protocol to the International Convention for the High Seas Fisheries of the North Pacific Ocean

The Governments of the United States of America, Canada, and Japan, through their

(*Continued on page 40*)

The Continental Shelf

(*Continued from page 15*)

SEDENTARY FISHERIES

ARTICLE 3.

The regulation of sedentary fisheries may be undertaken by a State in areas of the high seas contiguous to its territorial waters, where such fisheries have long been maintained and conducted by nations of that State, provided that non-nationals are permitted to participate in the fishing activities on an equal footing with nationals. Such regulation will, however, not affect the general status of the areas as high seas.

1. The Commission considers that sedentary fisheries should be regulated independently of the problem of the continental shelf. The proposals relating to the continental shelf are concerned with the exploitation of the mineral resources of the subsoil, whereas, in the case of sedentary fisheries, the proposals refer to fisheries regarded a sedentary because of the species caught or the equipment used, e.g., stakes embedded in the seafloor. This distinction justifies a division of the two problems.

2. Sedentary fisheries can give rise to legal difficulties only where such fisheries are situated beyond the outer limit of territorial waters.

3. Banks where there are sedentary fisheries, situated in areas contiguous to but seaward of territorial waters, have been regarded by some coastal States as under their occupation and as forming part of their territory. Yet this has rarely given rise to complications. The Commission has avoided referring to such areas as "occupied" or "constituting property." It considers, however, that the special position of such areas justifies special rights being recognized as pertaining to coastal States whose nationals have been carrying on fishing there over a long period.

4. The special rights which the coastal State may exercise in such areas must be strictly limited to such rights as are essential to achieve the ends in respect of which they are recognized. Except for the regulation of sedentary fisheries, the waters covering the sea-bed where the fishing grounds are located remain subject to the regime of the high seas. The existing rule of customary law by which nationals of other States are at liberty to engage in such fishing on the same footing as the nationals of the coastal State, should continue to apply.

CONTIGUOUS ZONES

ARTICLE 4.

On the high seas adjacent to its territorial waters, a coastal State may exercise the control necessary to prevent the infringement, within its territory or territorial waters, of its customs, fiscal or sanitary regulations. Such control may not be exercised more than twelve miles from the coast.

1. International law does not prohibit States from exercising a measure of protective or preventive jurisdiction for certain purposes over a belt of the high seas contiguous to its territorial waters, without extending the seaward limits of those waters.

2. Many States have adopted the principle of a high sea zone contiguous to territorial waters, where the coastal State exercises control for customs and fiscal purposes, to prevent the infringement of the relevant laws within its territory or territorial waters. In the Commission's view it would be impossible to challenge the right of States to establish such a zone. However, there may be doubt as to the extent of the zone. To ensure as far as possible the necessary uniformity, the Commission is in favour of fixing the breadth of the zone at twelve nautical miles measured from the coast, as proposed by the Preparatory Committee of The Hague Codification Conference (1930). It may be, however, that in view of the technical developments which have increased the speed of vessels, this figure is insufficient. A further point is that until such time as there is unanimity in regard to the breadth of territorial waters, the zone should invariably be measured from the coast and not from the outer limit of territorial waters. The States which have claimed extensive territorial waters have in fact less need of a contiguous zone than those which have been more modest in their delimitation..

3. Although the number of States which claim a contiguous zone for the purpose of sanitary regulations is fairly small, the Commission believes that, in view of the connection between customs and sanitary regulations, the contiguous zone of twelve miles should be recognized for the purposes of sanitary control as well.

4. The proposed contiguous zones are not intended for purposes of security or of exclusive fishing rights. In 1930, the Preparatory Committee of the Codification Conference found that the replies from governments offered no prospective of reaching agreement to extend beyond territorial waters the exclusive rights of coastal States in the matter of fishing. The Commission considers that in that respect the position has not changed.

5. The recognition of special rights to the coastal State in a zone contiguous to its territorial waters for customs, fiscal and sanitary purposes would not affect the legal status of the airspace above such a zone. Air traffic control may necessitate the establishment of an air zone over which a coastal State may exercise control. This problem does not, however, come within the regime of the high seas."

It is the four articles of Part II (Related Subjects) which have primary bearing on the tuna fishery, and they raise some questions.

The first two sentences of Article 1 are in accord with present international law and form the basis of United States practice on this question.

The third sentence of this article purports to establish a special property right by the adjacent coastal state to an area 100 miles off its coast. One wonders what the purpose or utility of such a suggestion would be and what benefits it would yield the family of nations. If a nation is fishing on a resource that occurs in the high seas off its shores its rights are covered in the second sentence of this article. If it is not participating in the harvest of those resources it is not likely to have sufficient interest in them to aid much in the formulation of such conservation measures as may be needed with respect to those resources.

The last sentence of Article 1 runs contrary to present practice of major fishing countries, including the United States. In the "International Convention for the High Seas Fisheries of the North Pacific Ocean" signed this spring in Tokyo, the United States, Canada and Japan have committed themselves to voluntary abstention from certain fisheries which have been fully developed and are being properly conserved by the developers. Perhaps it would not be wise at this juncture of history to prohibit the establishment by a nation or nations of property rights in particular, high seas resources which they have fully developed and are maintaining by careful conservation. Human nature being what it is, humanity has not yet devised a method of getting a people, or peoples, to wisely husband replaceable resources without giving them a reward for their pains and sacrifices in doing so.

The first sentence of Article 2 looks logical and accords with a great deal of thinking in international circles. Its only defect is that it is not practical and would not work.

The only place in the world where any large high seas resource (other than whales), is under conservation management is along the West Coast of North America. Thirty years or more of hard-won experience have led Canada and the United States, both between themselves by treaty, and internally by domestic laws, to undertake such management of resources only: 1. When the regulations are based upon adequate scientific investigation which indicates their need and practicality, 2. When an advisory committee from the affected industry has attested to the regulations being a suitable balance between conservation and economic necessities, and 3. When resources are managed individually in accordance with their individual needs and not by areas.

Nothing is more certain from the long experience of these two pioneer countries than that the biology, economics, and politics of high seas fishery conservation are intimately inter-twined and exceedingly complex. On these particular few fisheries the two countries spend sums of money each year running into millions of dollars on the scientific research required to keep the conservation regulations up to date and closely fitted to the biological, economic and

(*Continued on page 41*)

Progress & Production

(Continued from page 13)

Ice is frozen on a stationary stainless steel drum. A revolving cutter blade encircling the drum fractures the ice, and in turn drops it to a circulating delivery tray. This revolving tray deposits cold. dry ice flakes into the user's ice container at a temperature of between 18 and 20 degrees. The unit produces approximately 1500 pounds of ice per day, according to the company.

Just 62 inches high, 21¼ inches wide and 31 inches deep, the Ajax machine makes slightly curved ice flakes (1/16 to 1/32 inch thick), thereby increasing the cooling surfaces and preventing sticking.

NEW JUMBLE DISPLAY

A new dry-ice display has been engineered and produced by the Weber-Washburn Co., Inc., to aid in "point of sale" merchandising of frozen foods. This concern utilized the proven "dump" display principle to produce a unit that not only holds frozen food in perfect condition, but also is light weight and portable.

During extensive marketing tests in various parts of the country, the "Jumble Display" increased frozen food sales from 150% to 300% over normal. This new concept in frozen food merchandising is proving to be an effective builder of "plus sales."

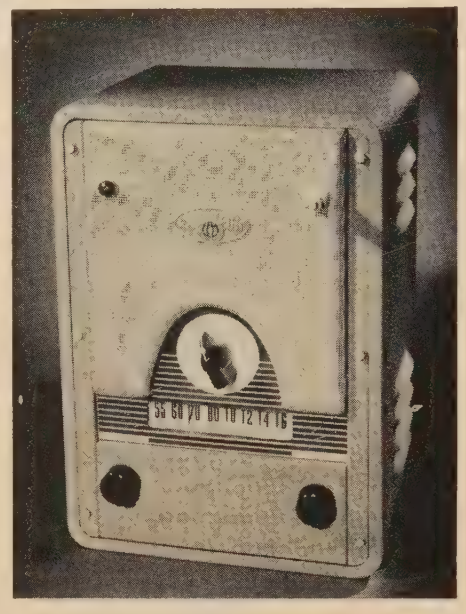
The unit consists of a fibreglas insulated shell, with attractive covering, attached to a steel wire basket in which the frozen food is placed. The basket is secured on tubular steel folding legs. An optional transparent plexiglas baffle increases product capacity of the display by 20% and helps maintain lower temperatures. Without this baffle, the unit holds 20 dozen cans of juice concentrates or 8 dozen standard size packages. The display maintains temperatures of 10° Fahrenheit at top level of unit wtihout baffle, and 0° with baffle.

Grocers report that the "Jumble Display" is ideally suited for introducing new frozen foods, as well as spot-lighting regular standard or slow moving items in a minimum amount of floor space. It has proven to them to be a remarkably versatile silent salesman because it can be shifted to any section of the store so as to take advantage of suggested tie-in sales with other foods.

The manufacturers have made arrangements with leading dry-ice producers to supply ice cut to size, package and deliver to warehouses, depots and general offices. The unit requires only 20 pounds of dry-ice to operate efficiently for a full day.

The display has the added feature of complete collapsibility which enables it to be easily transported, set-up and stored away. It weighs only 55 pounds and requires only six square feet of floor space.

Complete test results and further information are available from the manu facturers: WEBER-WASHBURN CO., Inc., 127 Twelfth Street, Brooklyn 15, N. Y.



RAYTHEON ANNOUNCES NEW MARINE RADIOTELEPHONE

A new 10 watt marine radiotelephone that incorporates many features found only in larger and more expensive models, is now being offered to small boat owners by the Raytheon Manufacturing Company of Waltham, Mass.

This new unit consists of a superheterodyne five-tube receiver and a five-tube transmitter with four crystal controlled channels and a tunable broadcast band. Features include a special vibrator power supply for lower current drain; individual tuning for peak output on all channels; push-to-talk switch for easier operation; separate power unit for quiet operation and ease of mounting; inductive antenna coupling for maximum harmonic attenuation; slide rule scale for broadcast tuning and telephone quality handset.

These features enable the Raytheon "RH" 10 watt Marine Radio-telephone to provide unusual clarity of reception and reliable transmission even under adverse weather conditions.

The unit is both attractive and practical in design. The case has been streamlined to take up less space. Its corrosion-proof finish blends pleasingly with the interior color scheme of even the most luxurious pleasure craft.

(Continued on next page)

Ebb 'n Flow

(Continued from page 9)

He will supervise all advertising, publicity, promotion and public relations for all divisions of the corporation and will continue coordinate sales promotion effort, with special emphasis on dealer service and relations.

W. L. Lawrence:

Advanced to Vice President, W. L. Lawrence, for the past year and a half General Manager, Cummins Diesel Sales Corporation with headquarters at Columbus, Indiana, was elected a Vice President of the Sales Corporation at a recent meeting of the Corporation's Board of Directors. Mr. Lawrence joined the Cummins organization in 1948 as the Rocky Mountain Regional Manager in Denver. He continues to serve as General Manager of the eight Cummins Dealerships operated by the Sales Corporation.

EAST COAST

Sun Jason:

A West Coast tuna clipper, *Sun Jason*, unloaded on June 7 at Gloucester, Mass., a fare of tuna seined in the offshore waters off the coast of Chile. The 600,000 pounds of frozen tuna were purchased by a Gloucester fish cannery (Davis Bros.). The vessel covered about 2,800 miles on its trip from the fishing grounds ot Gloucester via the Panama Canal. The vessel fished for 45 days and the fish averaged 50 to 60 pounds each. The fish were unloaded at a Gloucester freezer for storage.

The *Sun Jason* is a San Diego, Calif., vessel. It has a crew of 14. It is reported that the distance from the fishing grounds where the vessel fished to San Diego is practically equal to the distance from the fishing ground to Gloucester. Two Gloucester fishing records were broken by the *Sun Jason* in landing tuna at that port: (1) the vessel landed the largest fare of tuna ever landed at that port and (2) the vessel covered the longest distance from fishing grounds to port of any fishing vessel unloading at that port.

MARKETS

Selling Fish to Schools

Fish cookery demonstrations in the past school year influenced the eating habits of over one million students in 2,200 schools in Florida, Louisiana, Pennsylvania, New York, New Hampshire, Vermont, and Maine. These demonstrations were presented to school lunch personnel by home economists of the U. S. Fish and Wildlife Service to encourage greater use of fish in the National Lunch Program. The interest in fish which these demonstrations have developed in the schools presents an

opportunity for fish dealers in these and other states to increase their sale.

The greatest gains in sales of fish to schools have been made by dealers who have realized that school budgets are limited. They have offered inexpensive fish requiring a minimum of preparation. They have suggested low-priced frozen fillets such as ocean perch (rosefish), cod, haddock, and pollock to meet school needs. In canned fish they have found sardines, tuna, and flaked cod and haddock are well accepted. These products are featured in the Service demonstrations for the same reasons that they sell well to schools.

Delivery service is one of the sales points successful fish dealers are using to advantage. Dealers with established truck routes inform schools along the way of the products they sell and the days they deliver. Some have even found it profitable to change their truck routes to deliver more to schools. The general increase in the use of fish by schools as a result of the demonstrations has been 40 to 80 per cent, but by making these special efforts to serve local schools, many fish dealers have doubled or tripled their school business.

OUTLOOK

Fishery Products

Civilian supplies and consumption of fishery products in 1952 apparently have been running at about the same level as a year earlier, and are expected to continue to do so at least through mid-year. Slightly less canned fish commodities have been available than in the comparable period of 1951, but the indicated increase in the consumption of fresh and frozen products about offset the decline in the canned items. The index of retail prices of all fishery products in urban areas for the first quarters of 1952 averaged 350.2 (1935—39=100)—about the same as a year earlier, according to reports of the Bureau of Labor Statistics. Indications are that retail prices during the second quarter may decline a little to a level about the same as in the April-June months of 1951.

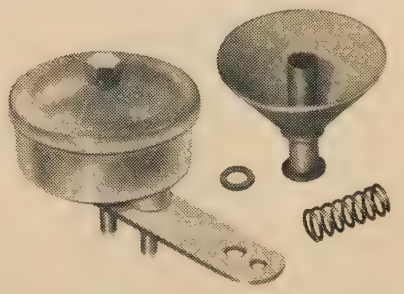
Production: The commercial catch of fishery products during the winter of 1952 was somewhat smaller than a year earlier. Part of the decline resulted from the fact that unfavorable weather hampered commercial fishing operations off the New England coast. In addition to reduced landings in New England, economic factors were responsible for a shift in the type of fishing operations. The strong market demand for cod and haddock encouraged fishermen to concentrate their production activities on these species, with less emphasis on fishing for ocean perch than last winter. *(Continued on page 26)*

Progress & Production

(Continued from page 22)

The FILTERALL oil filter, manufactured by the Permanent Filter Corporation, is a new and revolutionary filter in the oil filtration field. It is a filter with a lifetime guarantee and it is made in a complete unit which is adaptable to all types of passenger cars, as well as a conversion unit which will fit the oil filters used on passenger cars and trucks.

The FILTERALL cartridge is made of carefully sized, spherical shaped bronze particles which are fused together where they touch. The result is a metal which is porous, the porosity being controlled by the size of the spherical particles. Millions of microscopic voids and passageways remain between these ball-like particles for the passage of the oil but too minute to allow particles of dirt or abrasives



which are harmful or injurious to the engine, to pass through. This filters particles so fine that they can be measused only in microns (39 millionths of an inch). This permanent metal filter is waterproof, warp proof, and is not affected by engine temperature or crank case dilution.

The FILTERALL oil filter is a practical filter. 100% of the oil entering the filter must pass through the lifetime porous metal element. Because most all conventional type filters by-pass as much as 85% of the oil entering the filter, FILTERALL actually filters the oil more than six times faster. The FILTERALL lifetime porous metal element is by far the most important advancement in the oil filtration field since the inception of the oil filter. Another thing you will like about the FILTERALL oil filter is that it filters cold oil. It is an established fact that oil cannot be filtered through conventional type packs at low temperatures. Ordinary 30 weight S.A.E. oil must be 170-180 degrees before it will filter. Cold oil will also compress and by-pass in conventional type filters.

The modern day oils have been greatly improved. The majority of oils today are classified as heavy duty and contain additives. These oils are called detergent oils. They combat oxidation, corrosion, deterioration, acidity and foam. They also coagulate the fuel soot and keeps it in suspension. These additives are there for a definite purpose, and the oil will not do the job intended if these additives are removed, in fact, the oil may be injurious to the engine if they are removed.

These additives are metallic soaps and can be absorbed, therefore, a new problem has presented itself to the filter manufacturer. The oil must be protected as well as cleaned of all abrasives and harmful sludge. Due to the fact that the education of the general public regarding the condition of their oil when filtered; namely, that it should look clean, has not kept up with the development of modern day oils, many major oil companies are now advertising the fact that color does not tell the story any more. The detergent additive has a dispersing action and the oil tends to turn dark in color almost as soon as it is used. No oil filter except those that remove the detergent additives can keep these oils visually clean. FILTERALL makes no claim to make the oil look clean. It is not an absorbent type filter, and therefore, does not soak out the dyes, soaps, detergents or dark colors.

The majority of popular brands of filters may be quickly and easily converted to the FILTERALL porous metal filter. The FILTERALL conversion unit may easily be installed in three or four minutes. This merely requires the removal of the old cartridge, any springs, washers or fittings that can be removed, in the bowl, also the removal of any springs or washers attached to the cover. The directional flow of oil through the filter remains the same as in the conventional type cartridges. As the FILTERALL cone does not occupy all the space, it allows more room for the sludge to accumulate in the bottom of the filter case. This provides longer periods between cleanings and a large sludge capacity in the filter case.

FILTERALL oil filters should be periodically cleaned. To clean merely wash in gasoline, kerosene, or cleaning solvent, using a small brush to remove the balance of the sludge. It is helpful, though not necessary, to blow dry with air. The mileage between cleanings is dependent upon the condition of the engine as well as the condition under which the engine is operated. As the FILTERALL will gather all sludge that has been accumulated prior to the installation of this type filter, it is recommended that the FILTERALL be cleaned after the first 500 miles. (You

(Continued on next page)

will be amazed at the amount of sludge that will be in the bottom of the filter.) Under normal conditions, we recommend cleaning at intervals of 2500 miles after the initial cleaning.

FILTERALL oil filters are guaranteed as to workmanship and material. They have passed rigid laboratory tests and have given excellent performance in field tests. The complete Model 200 sells for $12.95, and the conversion kit can be purchased for $6.95. FILTERALL oil filters pay for themselves while in use.

The FILTERALL is in use on automobiles, missiles, aircraft, ships, trucks, tractors, canneries, machine tools, and many other diversified applications.

For additional information contact The Permanent Filter Corp., 2309 Riverside Drive, Los Angeles, 39, Calif.

HARRISON BREADING MACHINE

The Harrison Breading Machine is a double pass breader and battering machine about 32 feet long and 3 feet wide. This machine applies breading to the article to be breaded, immerses it in a prepared batter mix, and then applies the final breading to the product.

No guarantees are made as to the capacity of the machine with three operators, but on certain articles handled the machine has breaded articles as rapidly as thirty skilled women were able to do.

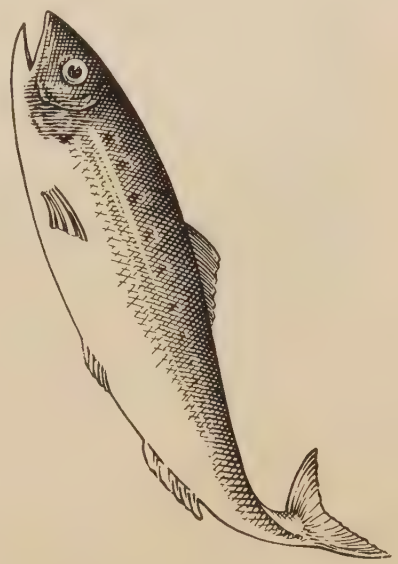
The uniformity of quality of product is well ahead of hand methods since the density of the batter mix controls the amount of breading on the article. This density is very simply controlled by the product inspector and, certainly, one inspector can be taught and supervised easier than thirty breaders.

The basic design of the machine centers in two identical pairs of white rubber conveyor belts. The belt which travels to the left conveys the breading from a hopper to the entry end of the machine where there is a split chute into which the breading falls. One side of the chute spreads a layer of the breading on the second belt, which travels to the right, while the other side of the chute deposits a shower of breading over the top and sides of the product to complete the coverage. The area between the two sides of this split chute is where the product is fed onto the machine. This process comprises what we call the pre-dusting operation.

The product is separated from the excess breading material at the end of this pair of belts by a wire mesh belt. The excess breading is returned to the storage hopper and the product is deposited in a flume where it is subjected to a stream of batter which prepares it to take on the final breading.

The breading operation is performed on the second of the two identical pairs of conveyor belts and is applied by another split chute as in the pre-dusting operation. At the end of this pair of belts the product is again separated from the excess breading by a wire mesh belt and is transported off of the machine to the packing line.

The amount of breading picked up by the product is governed by the consistency of the batter mix. The speed of flow of batter through the flume can



be regulated by a variable speed drive on the sanitary pump.

All parts of the machine which touch the product or batter are made of stainless steel or white rubber and can be cleaned with ease.

The Harrison Breading Machine has been in operation in our frozen seafood plant for nearly a year. During this period a variety of products have been breaded with marked success. A few of these are oysters, shrimp, scallops, cut-up chicken, fish fillets, deviled crabs, pork chops, and veal cutlets.

The advantages of this machine are as follows:

1. Large labor saver.
2. More uniform high quality.
3. Eliminates mess of many hand breaders.
4. Fewer lumps as compared to hand breading.

The price on this machine is $4,875, f.o.b. Baltimore, Maryland. Orders are going to be filled in the order in which we receive them.

MODEL 38 & 48 MARINE DIESEL BULLETIN

Marine Diesels—Bulletin No. 5106 just released by The National Supply Co., Springfield, Ohio, gives complete design features, capacity tables and dimensions of its ATLAS Models 38 & 48 marine diesels. Built for marine service, these naturally aspirated engines are available with reverse-reduction gears.

The 8-page bulletin describes the 4-cylinder, 85 and 110-horsepower engines, gives performance data, specifications of component parts, and lists standard as well as extra equipment.

MODEL 45 MARINE DIESEL BULLETIN

Marine Diesel—Bulletin No. 5107-A just released by The National Supply Co., Springfield, Ohio, gives complete design features, capacity tables and dimensions of its ATLAS Model 45 marine diesel. Built for heavy-duty marine service, the engine is available direct reversing with reduction gear or non-reversing with reverse-reduction gear and as a supercharged or naturally aspirated unit.

The 8-page bulletin describes the different 6 and 8 cylinder sizes available in capacities from 240 to 600 horsepower, gives performance data, specifications of component parts, propeller data, and lists standard as well as extra equipment.

MODEL 65 MARINE DIESEL BULLETIN

Marine Diesel—Bulletin No. 5111 just released by The National Supply Co., Springfield, Ohio, gives complete design features, capacity tables and dimensions of its SUPERIOR Model 65 marine diesel. Built for heavy-duty service in towboats, fishing vessels and tugboats, the engine is available as either a supercharged or naturally aspirated unit, and can be supplied with reverse gears and reduction gears.

The 8-page bulletin describes the different 6 and 8 cylinder sizes available in capacities from 580 to 1500 horsepower, gives specifications of component parts, and lists standard as well as extra equipment.

Editorial

(*Continued from page 7*)

to this country may cause grievous damage to our employment, to themarket for domestic goods and to the expansion of our industry and trade.

On the contrary, our Department of State publicly deplores the evidence of a rising demand for a higher tariff and similar protection against the sub-competitive prices at which many imports are offered in this country. Apparently in the eyes of the Department, American producers, including the workers, who seek to maintain the necessary bases of employment at prevailing wages and the prospects of a healthy and expanding market, are inefficient, selfish cry-babies—mere local special interests, at best.

What American producers including the workers need is an American embassy in Washington to interpret the American productive system in its great economic variety to the State Department.

The Department of State knows that wage rates in this country are three or four times as high as those prevailing in Europe and ten times as high as in some other countries that sell extensively in this country. It is true that our mechanized production in the large industries goes far to offset the high wages that we pay, in greater output per man-hour. On the other hand, it is also well known that this is not true of all our industry. In some fields of production mass production is either not possible from the very nature of the case, as has already been said, or no inventor has yet found a way of eliminating a large degree of hand labor. Must we then desert those industries and the millions of workers employed by them?

Has the State Department explained these facts? It has not. It has argued the opposite. Presumably they would have the workers in our potteries, in our glass factories, in our bicycle plants and those in hundreds of our smaller industries give up their jobs to foreign exporters and move bag and baggage to Detroit and Pittsburgh where our mass-production industries thrive. That is the logic of the State Department argument and it is hollow, heartless and shallow. It represents a planned breadline philosophy.

The State Department has done nothing in its volume of literature on international trade to explain the needs of American industry and agriculture, to foreign countries. Rather it has been hell-bent to slash our tariffs, and indeed went about it with the wanton zeal of high priests and medicine men. Industries that they knew little or nothing about felt the meat-axe as it was swung wildly by these whirling dervishes. They did have the grudging grace to admit that they might commit some errors in their frenzy. As a result they gave their consent to a pre-fabricated Escape Clause in 1943, put into effect by executive order, that turned out to be a species of shell game. Under it, out of twenty actions brought by various industries before the Tariff Commission, two, or 10%, were given relief.

Then in 1951, Congress, having beheld the handiwork and the attitude of the State Department, reasserted its constitutional authority over the regulation of foreign commerce and enacted a modified Escape Clause. If properly adminstered, this Clause will provide a remedy against serious injury from imports. It will not lead to embargoes or unreasonable tariffs. But now that the new Clause is being used—so far without a single decision coming from the Tariff Commission which administers it—now that some 16 industry and labor groups have made application

under it, the State Department is seized with chills and tremors and issues statements expressing alarm over our rising tariff *which has not, in fact, gone up a tenth of 1%.*

Mr. Acheson, Secretary of State, hastens to agree with all protesting countries. In his eyes, American producers are merely pressure groups while foreign interests, though also proceeding from economic motives, are apparently free from the taint of pressure. He fears the persistence of the dollar gap which has been and is being met by our economic and military aid. Therefore we should expand our imports sufficiently to wipe out the gap.

But neither Mr. Acheson nor his Department has any specific plan of increasing imports other than simply removing our remaining trade barriers and letting the havoc fall where it may. Yet they must know that a complete opening of the valves between two economies that stand on different levels could only be disastrous to the higher of the two, i.e., in this instance, the United States.

By covering up the fact that the State Department itself has misled other countries into believing that the United States had virtually foresworn the tariff; by hiding the fact that the Department has exceeded its authority in thus misleading other countries over a period of years and by failing to honor the Constitutional mandate which places the regulation of foreign trade into the hands of Congress and not the executive, that Department has tangled its own diplomacy in such a way that it must repudiate the reasonable safeguards of American industry, agriculture and labor in order to save its own face.

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50,000 Proteins

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been known since the beginnings of civilization, it is only in our modern age that the key that will open the doors to a longer and healthier life has been given into our hands.

I have alluded to *quality* of proteins in previous Pan-American Fisherman articles. At risk of repetition, we are compelled to again draw this distinction in the protein foods we eat. Proteins from the *vegetable* kingdom fall below the quality of the *animal* proteins —meat, fish, eggs and dairy products. This distinction becomes very important as we learn more about proteins, because the health-betterment job that finally falls upon each one of us, hinges upon our success in getting much more protein into our daily meals that we have previously believed to be necessary.

The animal proteins, too, may be compared on this same basis of *quality*. In themselves, the animal proteins are all about on a par. However, as meat proteins, eggs and dairy products have to be considered from the angle of source of the basic food supply, the finger of protein destiny points more and more to the fish life that inhabits the earth's oceans.

Sick soils, greedy over-cultivation, parsimonious under-fertilization, ignorance, drought, "dust bowl" destruction of top soils over wide areas—all directly affect the basic food supply of animals and poultry. Fish life in the oceans suffers from none of these chemical tragedies, produced by mankind's ignorance and the destructive moods of Nature.

The moral of the foregoing is plain and no time will be taken to point out that the ocean is the logical "breadbasket" of a starving world. The world soon must turn to the ocean for its protein food if it is to survive, for global food requirements are fast outstripping the capacity of land and livestock protein supplies.

The individual man or woman today, either on his own behalf or in the interest of family health, must seek vitality through *planned, disciplined* protein nutrition. Even fame and worldly success count for little, especially at middle age, if the body's functions dwindle and fade away when middle age wisdom knows best how to enjoy success. Life is an ordeal by protein, surging and vitalic *if* daily protein is ample—capricious and fretful if protein quantity and quality is on a daily touch-and-go basis.

I'll shed the role of professional food investigator long enough to say that as

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Ebb 'n Flow

(*Continued from page 23*)

Freezing and Holdings: Commercial freezings of edible fishery products in the United States and Alaska during January-April totaled 54.3 million pounds, 0.9 per cent greater than in the same months last year. All of the increase occurred during January; freezings in the three subsequent months were not quite as large as a year earlier. The volume of fishery products frozen is expected to increase by mid-1952, reflecting the seasonal expansion in landings. Cold-storage holdings are nearing their seasonal low, but are running much higher than a year earlier. On May 1, 1952, they amounted to about 113.5 million pounds, 27.9 per cent above those on the preceding May 1 and the largest on record for that date.

Canned Fish: Total supplies of canned fish were a little smaller in January-April than a year earlier. Slightly more pink salmon was available, but supplies of the other popular species of

canned fish were somewhat smaller. Prospects are that total supplies will continue below a year earlier at least until after mid-year, when the new packs start moving into distribution channels.

Foreign Trade: Imports of frozen groundfish (cod, haddock, hake, pollock, and cusk) and ocean perch fillets during the first four months of this year totaled 42.7 million pounds, more than 35 per cent above a year earlier. Indications at this time are that imports of these products will continue at a high rate during the second quarter. Exports of canned fishery products during January-March lagged significantly behind the rate in the same months of 1951. The decline in exports was in large part due to foreign trade restrictions and, to a lesser extent, to smaller supplies and higher prices than last year of the species of canned fish which are popular abroad. Exports of canned fishery products during the second quarter of 1952 probably will continue at a lower rate than a year earlier.

This analysis appeared in a report prepared by the Bureau of Agricultural Economics, U. S. Department of Agriculture, in cooperation with the U. S. Fish and Wildlife Service, and published in the former agency's April-June 1952 issue of *The National Food Situation.*

PRICE INDEX

Fish Products:

The usual seasonal climb in production which occurs in April accounted for the continued drop in prices of fishery products at the wholesale level which occurred during that month. The edible fish and shellfish (fresh, frozen, and canned) revised wholesale price index for April 1952 was 105.2 per cent of the 1947-49 average—3.9 per cent below the previous month and 0.6 per cent lower than in April 1951 (see table).

Except for salmon, most salt-water species of fresh dressed or whole fin fish during April showed marked declines in prices. On the other hand, due to certain Herbaic holidays which occurred during the month, prices of most fresh-water varieties rose substantially. Drawn, dressed, or whole fin-fish prices this April were 4.5 per cent below the previous month, but still 7.7 per cent higher than in April last year. Fresh large offshore haddock prices, which had dropped considerably from January to March, continued their downward trend. April prices for this variety were 20.6 per cent less than in March, but 1.4 per cent above April 1951. Frozen western halibut prices at New York City, which had been rising steadily for several months, dropped 1.5 per cent from March to April in anticipation of the opening of the new Pacific halibut season on May 14; however, these prices were still 10.0 per cent higher than during the same period a year earlier. The opening of the new salmon season on the West Coast accounted for the higher prices reported for the first arrivals of fresh king salmon at New York City—prices were 8.5 per cent higher than in March and 9.8 per cent higher than in April 1951.

Processed fresh fish and shellfish April prices were 9.3 per cent below March, but 0.3 per cent above April 1951. Both fresh shrimp and fresh haddock fillets were quoted substantially below (16.0 and 16.2 per cent, respectively) March quotations. However, April prices for shirmp were still 3.2 per cent higher and for haddock fillets 1.0 per cent lower than reported the same month in 1951.

Lower prices for almost all frozen fillets accounted for the drop in the processed frozen fish and shellfish

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Pink Tickets

(*Continued from page 12*)

for every transaction he makes. The ticket carries an individual number and has this information:

Where the fish were landed, date, gear used in the catch, fisherman's name, kinds of fish, weight of each kind, price paid for each and the dealer's signature.

In addition, the receipt has the number of the boat which is assigned to it by the Division of Fish and Game. From the day it is registered to as long as it remains in California Fisheries, each boat carries the same Division number regardless of ownership or other changing factors. This, incidentally, provides an accurate history of each fishing boat.

Insignificant by themselves, the prosaic pink tickets can be combined to form fabulous tales of the sea in the nation's most important commercial fishing area—the California Coast.

In the statistical building all information from a pink ticket is placed on four cards, providing a four-way chaindex cross index. On the chaindex cards is recorded identification of the individual boats. They are used as a four-way cross index only. Information on the pink tickets is transferred to numerical code and cut into the punch cards.

Cards are run through the sorting machine and then through the electric tabulators which print neat summaries which tell the story.

Basis of the system is analyses of boat catches to establish catch per unit of effort.

Since standards have been established through years of statistical compilations, Dr. Clark can determine easily and quickly variations in abundance of any species.

If a standard fishing effort catches less fish of a certain kind, this may be one indication the species is less abundant. This also indicates, if areas are considered, where a species of fish is located at any specified time and carries biological indications such as food supplies and habits of migration.

These conclusions can be further checked by two other methods, both of which are used to excellent advantage at the laboratory to complement the statistical method and for other purposes.

One of these is the study of sizes or age groups in the catches. With changes of the proportion of each age group to the total population, and consequently

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Radiotelephone

(*Continued from page 16*)

for example, the signal is fairly steady and clear. For points farther away, the channel is generally ineffective and consequently is of less value to operators. Many fishermen have found through experience that garbled or incomplete radiotelephone conversations are often worse than none.

Some operators of marine radiotelephones maintain that the southern range of the service could be extended by establishing another transmitter station near San Diego. It would help, of course, but only to the extent of airline mileage between San Pedro and San Diego—about 90 miles—which is small improvement when a boat is operating more than 2,600 miles away in the vicinity of the Galapagos.

What's the answer? How can an operator be assured of reaching a telephone at practically any time of the day or night? How can transmission and reception be made clear and effective at most required distances?

One solution is to subscribe to a service which will meet these requirements. This solution has been adopted by more than 50 vessels in the long-range fishing fleet who have subscribed to the telephone company's high seas service. This service consists of four channels in the 4 to 17 megacycle band with virtually no limit to the effective range. Choice of 4, 8, 13, or 17 megacycles is made according to the equipped vessel's location, time of day and season. With high seas service, as in coastal harbor service, an operator on board a boat can be connected with any one of the nation's 44,000,000 telephones. The big difference, however, is that the operator using high seas facilities can consistently complete conversations from Central and South American waters; the operator using coastal harbor service often times fails to be heard if he is more than 300 miles from KOU facilities.

The long-range service, inaugurated on the east coast aboard the S. S. Leviathan in 1929, is ideally suited to the communications requirements of the fishing fleet and long-range pleasure craft. In addition to its extended range, it is relatively free from congestion on the channels. Operators who subscribe to the service report being able to complete calls at almost any time. In fact, one boat owner reports completing 95 calls out of 100 tries recently in Central American waters. The five calls not completed were due to unfavorable atmospheric conditions.

The high seas service is provided from three powerful land station transmitters in the U. S. The Pacific area is served by station KMI near San Francisco; the Caribbean area by station WOM near Miami, Florida; and the Atlantic area by station WOO near New York City. Tuna boats operating in the vicinity of the Galapagos may find that their calls would be picked up by any of these stations to be connected to the designated telephone by land lines. No matter which of the stations did handle the call the charge would be the same; rates for high seas calls are dependent upon the vessel's location, not necessarily on the location of the shore station handling the call.

There has been some hesitancy on the part of boat operators to utilize high seas service, apparently because of the requirement for more powerful shipboard equipment using the higher frequencies. Whereas transmitters of 5 to 50 watts power and only one channel frequency are generally used for coastal harbor service, high seas service requires transmitters of additional power and a wider selection of frequency channels.

Let's examine the comparative values. The difference in effective range limits of the two kinds of radiotelephone service might mean the saving of several days' time, depending on the boat's position. Using high seas service, a captain would have that much more time to ascertain docking space, packing facilities and other arrangements concerning his boat, cargo and crew. By the same token the home office may keep in constant touch with the boat—which is as near as the telephone. A few calls, or even one vitally important call, may compensate for the installation and using cost of the long-range radiotelephone equipment in time and money saved. In addition, there is the morale factor—the knowledge that at any time an important radiotelephone call may be made to a desired location.

Last year it was felt that congestion of the medium-range coastal harbor channel would be relieved to some ex-

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Ebb 'n Flow

(*Continued from page 26*)

index of 5.3 per cent from March to April; however, this index was still 0.6 per cent higher than in April 1951. Although April frozen fillet prices were substantially below the previous month, prices for haddock fillets were still 1.9 per cent and flounder fillets 2.6 per cent higher than in April 1951, while ocean perch fillets were 9.9 per cent lower. The frozen shrimp market weakened slightly and April prices propped 2.4 per cent below March levels, but were still 7.1 per cent above April a year ago.

The April index for canned fishery products was 7.5 per cent below the same month a year earlier and 0.3 per cent below March. In April nearly all canned fishery products remained steady at March levels, except Maine sardines which were quoted 3.0 per cent lower than in March. Compared with April 1951, this April's prices were 16.0 per cent lower for pink salmon and 5.0 per cent lower for tuna, but 38.8 per cent higher for California sardines and 48.0 per cent higher for Maine sardines.

RELIEF

Income Tax:

H.R. 7522 (Sikes)—A bill to amend Section 112 of the Internal Revenue code to provide the same rules for determining gain in the case of the sale or exchange of boats used in commercial fishing as are provided in the case of the sale or exchange of residences; to the Committee on Ways and Means.

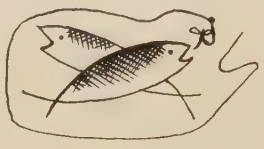
SALES

Frozen Fish:

Several railroad companies are now experimenting with pre-cooked frozen food for diner use. The meals (from soup to dessert) are cooked and frozen in central kitchens and then put aboard the trains. As needed, they are thawed, heated, and served. The railroads have found this innovation so promising that they are now trying to expand its use to more extensive menus. Swordfish has been tried successfully and undoubtedly more menus which include fish are being considered. This may be an opportunity for enterprising fish dealers to assist the railroads in developing this new idea.

Another idea which has possibilities for frozen fish dealers is the sale of frozen fish in wholesale quantities to home-freezer owners. Already there are approximately four million home freezers in use in the nation. Many owners want to buy frozen food at quantity prices to place in their freezers. Some sellers of home freezers are therefore giving their customers lists of frozen-food distributors who sell frozen food on this basis. Other home-freezer distributors sell their customers frozen foods at the same time that the home freezer is purchased. Frozen fish dealers who want to sell more fishery products in quantity to individuals should work closely with their local home-freezer distributors, and cater to home-freezer owners. In so doing, they will be tapping and expanding new market for fishery products.

The possibilities in these two ideas for selling frozen fish indicate the ever-broadening market for frozen fishery products. The industry should take advantage of such opportunities for increasing the national consumption of fish and shellfish.



DIRECTORY

1952 Canner Directory:

The 1952 CANNERS DIRECTORY, compiled and published by the National Canners Association, has just come off the press. The 44th of these annual compilations, which were begun in 1909—two years after the Association was founded—the new DIRECTORY consists of 252 pages, bound in stiff linen covers. Canning firms and their headquarters addresses are listed by States along with plant locations and products packed in each. Membership in N.C.A. is indicated and the DIRECTORY also lists Association officers, staff, branch offices, Directors, Administrative Council and Committee members for 1952. Also given are the membership of the National Food Brokers and Canning Machinery & Supplies Association. The book features an over-all Commodity Index covering 492 different canned products.

The Association furnishes one free copy to each of the N.C.A. member firms, but otherwise the DIRECTORY sells for $2.50 per copy. Orders are handled by the Information Division, National Canners Association, 1133 Twentieth Street, N.W., Washington 6, D. C.

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50,000 Proteins

(*Continued from page 26*)

a father of six husky boys and girls, whose health is my main consideration, I have not found any phase of food programming as rewarding in its health effects, as methodical attention to high protein intake. For large and small families alike, high protein intake can be better achieved by according a far more important place to fish products in the diet than is commonly given.

The per capita consumption of fish products in the United States is mysteriously low. Habit perhaps is as much responsible as any other single factor. We change our food habits very slowly. When it is remembered, however, that the *original* integrity of fish protein, because of *untampered food supply* in the ocean, is so much higher than meat, poultry and dairy product proteins, it is only common sense for us to revise upward our family and per capita quota of fish products in the daily provender.

During the past year, we Loughrans averaged in fish consumption (fresh, frozen and canned) close to 75 pounds per person. This is almost 600 per cent more than the national annual average per person. A budget minded person can compute quickly that for a family of eight—six children and too grown-ups—this quarter ton of fish within a year represented a worthwhile money saving, because fish products are considerably lower in price than equivalent amounts or weights of meat protein. Obviously, too, our use of fish at main meals was not restricted to Fridays or special occasions. Budgetwise and healthwise, more fish in the diet brings a twofold gain.

It often works out that articles of this kind fail to achieve the most important target, which is, for the reader to "suit the action to the word." Our attempt in this series is to shed light on the whole problem of protein as it affects mankind generally. However, the best proof of protein metabolism is for each wide awake, intelligent person to start to include a much larger quota of protein, including more fish products, in the day's fare. To paraphrase a current advertising slogan; there is no food like good protein and there's no protein better than fish protein.

Looking at it objectively, our *really* important knowledge of protein is of very recent vintage. A great philosopher once said that the most advanced thought of the day is generally 25 years ahead of its common use by the multitude. Therefore, the person who really

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The Tuna Story

(*Continued from page 17*)

in the United States would be more prosperous. But when I ask,

"What is being done about it?" The answer, in one form or another, is:

"We're doing everything we can." This answer I refuse to accept. My own experience with similar problems in several other large industries disproves it.

The Burlington Railroad, United Fruit Company, the sponge-fishing industry and the salmon industry have all used a formula which I suggested with outstanding success, so I'm going to suggest it here.

There is an old and widely accepted Chinese saying: "One picture is worth ten-thousand words."

Get together and have a theatrical motion picture produced by professional craftsmen and by accepted Hollywood standards for national theatre distribution.

How better to arouse the interest of a housewife in tuna than to display it in its many delectable forms while she is attentive, relaxed, and perhaps a little hungry?

It is an accepted fact that more people can be reached and influenced through motion pictures than through any other medium. The one great difficulty lies in the fact that to gain this vast audience the motion picture must be entertainment and not advertising. Subjects which can be so used and still conform to these requirements are rare.

The vital problem of public relations in the tuna industry can benefit tremendously from this motion picture treatment.

Better than speeches before legislatures, better than printed brochures, better than any other form of publicity, is a motion picture which, while it is fully entertainment and purchased as such, also carries the story of an industry to an audience.

When the audience leaves the theatre (and seventy-five million people do so each week in the United States alone) having been entertained and at the same time having absorbed an industry's message, that industry has made friends.

In this instance, the tuna industry is in a position to reach these people with the best facets of its members' business as in no other way. It is also in a position to command great cooperation for the benefit of the theatre operator.

The principal duties of the theater operator are to provide entertainment for his patrons and to make those patrons as numerous as possible.

The entertainment is supplied to him, usually without much choice on his part, and the further efforts of the distributor of the picture to help build his audience are pretty much routine. It therefore becomes his own local problem to sell as many tickets as possible. Consequently, he is always searching for a picture which has that additional element—an exploitation angle. And being a showman, he knows what to do with such an opportunity.

I have been engaged in the production of major motion pictures for many years. For the purposes of authenticity, I have worked much in the actual locations of the story. In several notable instances, I have turned this to the distinct advantage of the location or the industry of the background.

Notably were "The Silver Streak", a story of the first Burlington Railroad's streamlined train, and "The Silver Horde", a story of the salmon industry in Alaska. Others have been at the U. S. Naval Academy, Fort Meyer Va., the sponge fishing in the Bahamas, and bananas in Central America.

(*Continued on page 39*)

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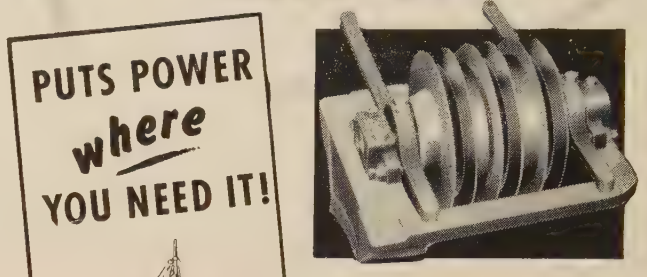

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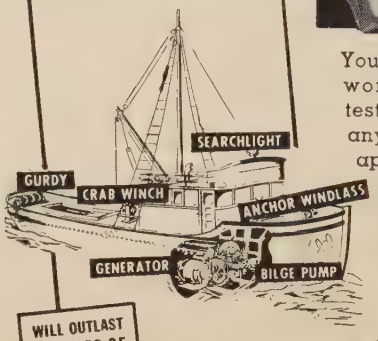

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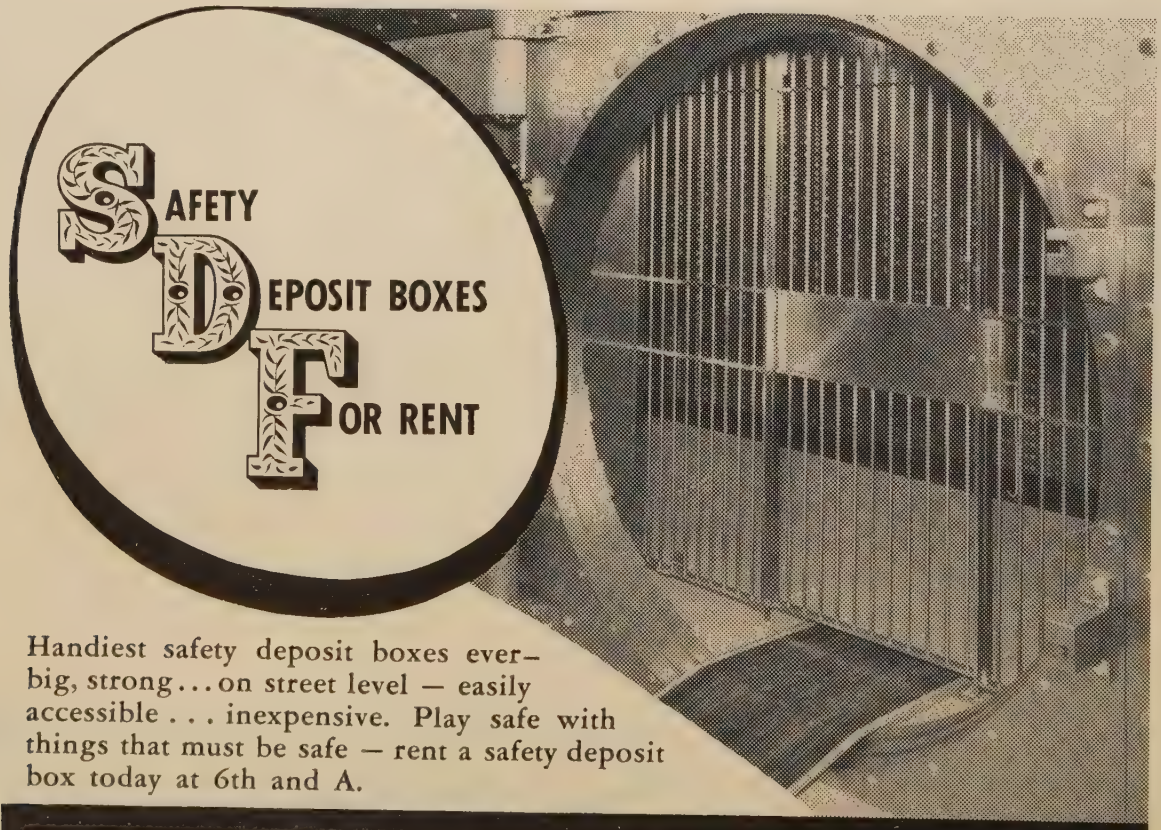

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50,000 Proteins

(*Continued from page 28*)

takes this newer knowledge of protein nutrition to heart and then puts it *practically* to work his changed-over daily eating habits is far ahead of the game.

There is no barrier to hinder anyone from translating this whole subject into a genuine health gain, *starting right now*. Daily duties, solving problems, engaging in recreation, thinking, feeling, acting and living, all happen because of the partnership of brain, nervous system, blood and, above all, the ductless glands. All of these life areas, and all of the widely discussed hormones have the *proteins* that we eat today as their mainspring and source. Ergo, the better you keep your digestive transmission belt full of high quality proteins, the better will metabolism reward you with the health life abundant.

Keeping pace with you as you are solving your individual protein problem (helped out by a greater use of fish product proteins), are dozens of scientific and governmental agencies seeking the same answers to the same problem on a global level. The U. S. Fish and Wild Life Service, the Scripps Institute of Oceanography, to name but two of many top-drawer science outfits, are probing, computing and pondering how a starving world can be adequately fed with protein. One and all, they are turning to the sea, the most ancient and, yet in some respects, the least known world food larder.

About a fortnight ago, the United Nations food and agriculture section met in Denmark. Among the experts present were fishery experts armed with world oceanic statistics. Comparative studies were set up on the fish catches of the last few years. Plans were laid and methods outlined to speed up fish catches in the vast sea areas that cover two-thirds of the earth. All of this, so as to better feed the human beings who live (and die before their time) on the other one-third surface of the world. How much animal life exists in the seas for a hungry world? The more experienced the biologist and ecologist, the larger will be his guess.

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Ebb 'n Flow

(*Continued from page 28*)

NOTICE
HALIBUT REGULATION CLOSURES

Under authority of the Convention between the United States of America and the Dominion of Canada for the preservation of the Halibut Fishery of the Northern Pacific Ocean and Bering Sea, and as provided by regulations effective April 22, 1952, the International Fisheries Commission has determined upon the date of 12:01 a.m., July 13, 1952, as that upon which Areas 3A and 1A as defined in the said regulations shall be closed to all halibut fishing except that provided for in Article I of the Convention.

Area 3A is defined to include all convention waters off the coast of Alaska between a line running south one-quarter east (magnetic) from Cape Spencer Light and a line running approximately south three-quarters east (magnetic) from the Alaska Peninsula, near Bold Cape, through the highest points on Deer and Caton Islands.

Area 1A is defined to include all convention waters southeast of a line running northeast and southwest (magnetic) through Cape Blanco Light, Oregon.

References should be had to a copy of the regulations for further details regarding these boundaries.

Under authority of the Convention between the United States of America and the Dominion of Canada for the preservation of the Halibut Fishery of the Northern Pacific Ocean and Bering Sea, and as provided by regulations effective April 22, 1952, the International Fisheries Commission has determined upon the date of 12:01 a.m., June 9, as that upon which Areas 2A and 1B as defined in the said regulations shall be closed to all halibut fishing except that provided for in Article I of the Convention.

Area 2A is defined to include all convention waters off the coasts of the United States of America and of Alaska and of the Dominion of Canada between Area 1B and a line running through the most westerly point of Glacier Bay, Alaska, to Cape Spencer Light and thence south one-quarter east, and to be exclusive of Areas 2B and 2C and of the nursery areas defined in said regulations.

Area 1B is defined to include all convention waters between a line running northeast and southwest through Cape Blanco Light and a line running northeast and southwest through Willapa Bay Light on Cape Shoalwater.

Reference should be had to a copy of the regulations for further details regarding these boundaries.

CONVERSION

Copper:

The Copper Division of the National Production Authority today is advising domestic holders of refined copper who are in doubt whether such copper can be converted for their use that arrangements can be made for its conversion.

Those in physical possession of the metal may apply to the Copper Division for necessary permission to convert it into CMP forms and shapes.

When making application it will be necessary to furnish information specified in paragraph "C" of section No. 6, NPA Order M-16, NPA said prompt attention will be given to these applications.

SEA FOOD HIGH

Washington:

Washington seafood production during 1951 was one of the best years on record, with 181,168,000 pounds of fish

and shellfish being landed at state ports for processing.

The total includes 76,745,780 pounds of salmon, 52,608,810 pounds of bottom fish, 51,111,940 pounds of shellfish, and 702,450 of fish livers. Imported fish are not included.

Had the Puget Sound pink salmon run not fallen off, the season's output probably would have exceeded the 1949 total of 181,831,610 pounds—greatest since the present system of statistical accounting was inaugurated in 1935. The pink salmon take was about two million fish or 10,000,000 pounds under 1949. Despite this, the canned salmon pack of 786,973 cases (48-pounds) was the second largest since 1933, being exceeded only by 1947. The 1950 pack was 434,813 cases.

The pack included 27,699 cases of chinooks, 111,060 chums, 438-761 of pinks, 86,894 of silvers, and 122,559 of sockeyes. In addition, 1,124,706 cases were packed from imported salmon, mostly of Canadian origin.

Above average production in the Boundary bay crab fishery, on the offshore troll grounds, and in the Grays and Willapa salmon fisheries, together with an increase of one million fish in the Fraser river sockeye salmon catch, were highlights of the year's commercial operations.

FWS BIOLOGIST

Japan:

At the invitation of the Japanese government, the Fish and Wildlife Service has dispatched Francis M. Fukuhara, a Service bioligist, to accompany a Japanese salmon fishing expedition operating in the Bering Sea, according to an announcement made today by Secretary of the Interior Oscar L. Chapman.

Fukuhara, a native of Seattle, Washington, and a student at the Fisheries School of the University of Washington, joined the 3,700 ton mothership *Tenyo Maru No.* 3, via United States Coast Guard vessel on May 30.

In issuing the invitation, the Japanese government acted in the spirit of the recently negotiated North Pacific Fisheries Convention to which the United States, Canada and Japan are signatories.

Fukuhara will remain with the Japanese fleet until about July 20, working with the Japanese in the collection of scientific data on the composition and distribution of the salmon populations of the North Pacific Ocean. This study will be of great importance in the conservation of American salmon resources, and is a first step toward investigations contemplated by the Fisheries Convention.

In addition to the *Tenyo Maru No.* 3, the Japanese fishing fleet consists of the motherships *Tenryu Maru* of 557 tons and *Shinko Maru No.* 1 of 521 tons, some 50 catcher boats, and two research vessels. The fleet has been fishing since about May 10 and, it is reported, is confining its operations to the area between latitude 50° N. and 55° N. and longitudes 170° E. and 177° W.

Fukuhara attended elementary and high schools in Seattle and Lords College in Dubuque, Iowa. He is a veteran and served with the occupation forces in Japan. Upon completion of military service, he enrolled in the University of Washington School of Fisheries where he is in his final year.

"BELIEVE IT OR NOT"

Ripley:

Our industry has an opportunity for publicity in Ripley's "Believe It or Not" cartoons now being carried in over 350 newspapers daily with a readership of many millions. If you have any unusual fact or story regarding the fishing industry which would be suitable for this column please advise N.F.I.'s Public Relations Department as soon as possible. We want to take advantage of

(*Continued on page 41*)

West Coast Canners

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Alaskan Glacier Sea Food Co., P.O. Box 1001, Seattle 11
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Annette Islands Canning Co., Colman Bldg., Seattle 4
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Bellingham Canning Co., 219 Herald Bldg., Bellingham 4
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Copper River Packing Co., Colman Bldg., Seattle 4
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Emard Packing Co., Inc., 615 Lowman Bldg., Seattle 4
Embrée Packing Co., Westport
Everett Fish Company, Eugene C. Scheerer Canning Div., Pier 2, Everett
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Halferty Canneries, Inc., 508 Colman Bldg., Seattle 4
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Hood Bay Salmon Co., 625 Colman Bldg., Seattle 4
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Nelson, Thomas, Oysterville
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(Continued on page 36)

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Alaska Herring Skippers Association, 909 American Building, Seattle 4, Washington
Alaska Salmon Purse Seiners Union, Wrangell, Alaska
Alaska Salmon Industry, Inc., 200 Colman Bldg., Seattle, Wash.
Alaska Trollers Association, c/o Thor Henricksen, P.O. Box 688, Ketchikan, Alaska
Association of Pacific Fisheries, 200 Colman Bldg., Seattle, Wash.
California Fish Canners Association, Inc., Ferry Bldg., Terminal Island, Calif.
California Sardine Products Institute, 230 California St., San Francisco, Calif.
Central Pacific Wholesale Fish Dealers Association, 566 Clay St., San Francisco, Calif.
Columbia River Salmon & Tunt Packers Association. P.O. Box 60, Astoria, Oreg.
Crab and Salmon Fisherman's Protective Association, Fishermen's Wharf, San Francisco, Calif.
Federated Boat Owners Association, Inc., 579 West 9th St., San Pedro, Calif.
Fishermen's Protective Association, Fishermen's Wharf, San Francisco, Calif.
Fishermen's Wharf Merchants Association, Fishermen's Wharf, San Francisco, Calif.
Juneau Fishing Vessel Owners Association, Inc., Box 668, Juneau, Alaska
Ketchikan Vessel Owners Association, Box 688, Ketchikan, Alaska
Monterey Fish Processors Association, 503 Ocean View Ave., Monterey, Calif.
National Canners Association, 1133 20th St., N.W., Washington 6, D. C.; 826 Skinner Bldg., Seattle, Wash.
Northern California Fisheries Association, 556 Clay St., San Francisco, Calif.
Northern Fishing Vessel Owners Association, Sitka, Alaska
Northwest Salmon Canners Association, 627 Colman Bldg., Seattle 4, Wash.
Off-Shore Fishing Vessel Owners Association, P.O. Box 838, 51 Ninth St., Astoria, Oreg.
Olympia Oyster Growers Association, c/o E. G. Brenner, Jr., 502 West Fourth St., Olympia, Wash.
Pacific Canned Salmon Distributors Association, 556 Colman Bldg., Seattle, Wash.
Pacific Coast Clam Packers Association, 508 Colman Bldg., Seattle, Wash.
Pacific Coast Fish Producers Institute, Inc., c/o Mason Case, Chairman, Mass Landing, Calif.
Pacific Coast Oyster Growers Association, Inc., Room 4, Ferry Dock, Seattle 4, Wash.
Pacific Coast Purse Seiners Association, Pier 59, Seattle1, Wash.
Pacific Herring Packers Association, 2408 Commodore Way, Seattle 99, Wash.
Puget Sound Gillnetters Association, Everett, Wash.
Puget Sound Net Owners Association, c/o C. J. Sebastian, President, Sebastian-Stuart Fish Co., Seattle, Wash.
Puget Sound Salmon Canners, Inc., Pier 54, eattle S4, Wash.
Purse Seine Vessel Owners Association, 5301 No. Ruby St., Tacoma, Wash.
Retail Fish Dealers of Northern California, State Agricultural Bldg., San Francisco, Calif.
San Diego Harbor Association, 548 Spreckles Bldg., San Diego 1, Calif.
San Francisco Purse Seine Vessel Owners Association, 350 Jefferson St., San Francisco 11, Calif.
Seattle Fish Exchange, Inc., Pier 67, Seattle 1, Wash.
Southern California Commercial Fishing Boat Owners Association Long Beach, Los Angeles Harbors, Calif.
Trolling Vessel Owners Association, Pier 4, Seattle, Wash.
Tuna Boat Owners' Association, 1125-A Ala Moana Rd., Honolulu, Hawaii
Vessel Owners Association, c/o Chamber of Cemmerce, Petersburg, Alaska
Wholesale and Retail Bait Association, 5050 West Point Loma, San Diego, Calif.
Wallapa Harbor Oystermen's Association, Bay Center, Wash.

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West Coast Canners (Continued)

(Continued from page 33)

CALIFORNIA

San Francisco—
Alaska Packers Association, 215 Fremont St., San Francisco 19
American Sardine Co., P.O. Box 237, Benicia
Bell Smoked Fish Co., 490 Jefferson St., San Francisco 9
Booth Co., Inc., F. E., 280 Battery St., San Francisco 11
California Packing Corp., 215 Fremont St., San Francisco 19
Hale Fisheries, Elwyn C., and Estate of C. P. Hale, Ltd., 112 Market St., San Francisco
Hawaiian Tuna Packers, Ltd., 215 Market St., San Francisco
J. D. Packing Co., Pier 92, San Francisco
Keystone Fisheries, Pier 92, San Francisco
Lazio Fish Co., Inc., 4 C St., Eureka
Northern Packing Corp., Pier 92, San Francisco
Pacific Sea Products, Inc., 556 Clay St., San Francisco 26
Paul's Cannery, Crescent City
Red Rock Fisheries, P.O. Box 1068, Richmond
San Xavier Fish Packing Co., 260 California St., San Francisco 11
Sportsmen's Cannery, Yacht Harbor, Berkeley
Washington Fish & Oyster Co. of Calif., 544 Sansome St., S.F. 11

San Diego—
Corona Packing Co., P.O. Box 25
High Seas Tuna Packing Co., Inc., P.O. Box 188, Pt Loma Sta.
Sun-Pacific, Inc., 520 Ash St.
Van Camp Sea Food Co., 1444 So. Crosby
Westgate-Sun Harbor Co., 1995 Bay Front

Los Angeles—
American Chili Powder Co., 526 So. Alameda St., Los Angeles 13
Cal-Cap Fisheries, Inc., P.O. Box 176, Wilmington
California Marine Curing & Pkg. Co., 709 Ways St., Terminal Isl.
Coast Fisheries, Div. of the Quaker Oats Co., 272 So. Fries Ave., Wilmington
Franco-Italian Co. ,Inc., 231 Fish Harbor Wharf, Terminal Island
French Sardine Co., Inc., 582 Tuna St., Terminal Island
Del Mar Food Products, P.O. Box 395, Port Hueneme
Gonzalez & Blanco, 526 So. Alameda, L.A.
Harbor Canning Co., 1709 E. Colon St., Wilmington
Laguna Packing Co., 1615 E. Mauretania
Lido Fisheries, Inc., 501 Pico Ave., Long Beach 13
Malibu Canning Co., 262 So. 5th St., Port Hueneme
Newport Canning Co., 28th & Lafayette, Newport Beach
Pan Pacific Fisheries, Inc., 350 Sardine St., Terminal Island
Seaside Fisheries Co., 1340 W. 7th St., Long Beach 13
South Coast Fisheries, Inc., 820 Ways St., Terminal Island
South Pacific Canning Co., 543 Pico Ave., Long Beach 13
Southern California Fish Corp., 722 So. Seaside, Terminal Island
Terminal Island Sea Foods, Ltd., 241 Fish Harbor Wharf, Terminal Island
Van Camp Sea Food Co., Inc., 772 Tuna St., Terminal Island
West Coast Packing Corp., 1687 W. Water St., Long Beach 2
Western Canners Co., 3000 Lafayette, Newport Beach

Monterey—
Atlantic Coast Fisheries Co., The, Monterey
California Frozen Fish Co., Inc., 214 Wave St.
Carmel Canning Co., The, 230 California St.
Custom House Packing Co., P.O. Box 751
Edgewater Packing Co.
Enterprise Packers, P.O. Box 1751
Golden State Packing Corp., P.O. Box 516, Grover City
Hovden Food Products Corp., P.O. Box 391
Monterey Canning Co., 702 Ocean View Ave.
Monterey Fish Products, Inc., 284 Wave St.
Oxnard Canners, Inc., 380 Wave St.
Peninsula Packing Co., Reeside & Wave St., P.O. Box 707, Monterey
Port Costa Packing Co., Moss Landing
San Carlos Canning Co., Spence & Wave St.
Santa Cruz Packing Co., P.O. Box 39, Moss Landing
Sea Beach Packing Co., 622 Ocean View Ave.

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West Coast Shipyards

WASHINGTON

Seattle—
Berg Shipyard, Coleman Bldg.
Carmac Shipyards, Inc., 5320—28th N.W.
Duwamish Ship Yards, Inc., 5658 W. Marginal Way
Fishing Vessel Owners Marine Ways, Inc., 15th W. & Thurman
Jannsen Boat Works, 9407 E. Marginal Way
Pacific Fishermen, Inc., 5351—24th N.W.
Todd Shipyards Corp., 1801—16th S.W.
Tripple & Everett Marine Ways, 1636 W. Spokane

Tacoma:
Birchfield Boiler, Inc., 2503 E. 11th
J. M. Martinac Shipbuilding Corp., 1501 Railroad
Pacific Boat Bldg. Co., 223 East F
Puget Sound Boat Bldg. Corp., 820 East D
Tacoma Boat Bldg. Co., Inc., 2142 East D

OREGON

Portland—
Albina Engine & Machine Works, Inc., 2100 N. Albina
Commercial Marine Service, 510 S.W. Yamhill
Floating Marine Wayt. Ft. N. New York Ave.
Gunderson Bros. Engineering Corp., 4700 N.W. Front
Northwest Marine Iron Works, 2516 N.W. 29th
Portland Shipbuilding Co., Ft. S.W. Nebraska
Willamette Iron & Steel Co., 2860 N.W. Front Ave.

CALIFORNIA

San Francisco—
Allied Shipbuilding & Repair Co., 461 Market
Anderson & Cristofani, Innes Ave. & Griffith
Bert Merry Co., 171 Lee Ave.
Bethlehem Pacific Coast Steel Corp., 20th & Illinois
Bowes & Andrews, 153 Steuart
Browns Bros. Welding Co., 223 Main St.
Channel Ship Repair, Pier 62
Columbia Machine Works, Pier 20
Dee Engineering Co., 170 Hooper
Hyet & Struck Engineering Co., 425 Folsom
Geo. Kneass Co., 18th & Illinois
Morrison Q Bevilockway, 166 Fremont
Pac ific Coast Engineering Co., Oak & Clement, Alameda
Pacific Dry Dock & Repairs Co., 1441 Embarcadero, Oakland
Pacific Ship Repair Incorp., Pier 25
Plant Bros. Co., 1168 Battery
Siefert, H. G. Laboratory, 3403 Piedmont Ave., Oakland
J. T. Thorpe & Son., Inc., 941—16th
Todd Shipyards, Pier 36
Todd Shipyards, Alameda Plant, Foot of Main, Alameda
Triple A Machine Shop, Pier 64
Wagner Engineering, Pier 62
Wagner & Niehaus—General Machine Shop, 291 Jefferson
Watkins Ship Repair, 607 Market
West Winds, Inc., 1025 Battery
Western Engineering, 369 Dore

Los Angeles—
National Steel & Shipbuilding Corp., 417 South Hill

Long Beach—
Craig Shipbuilding Co., Water & Mendocino
Dorody Marine Corp., Ocean Center Bldg.
Long Beach Marine Repair, 1409 W. 7th
Todd Shipyards Corp., 560 N. Front, San Pedro

Terminal Island—
Fellows & Stewart, Inc., Berth 213
Forster Shipbuilding Co., Inc., Ferry
Harbor Boat Building Co., 154 Cannery

San Diego—
Martinolich Ship Building Co., 2475 Belt St.
National Steel & Shipbuilding Corp., Harbor Dr. & 28th
S.D. Marine Construction Co., Foot of Sampson
Harbor Boat & Yacht Co., 5060 Harbor Drive
Campbell Machine Co., Foot of 8th Ave.

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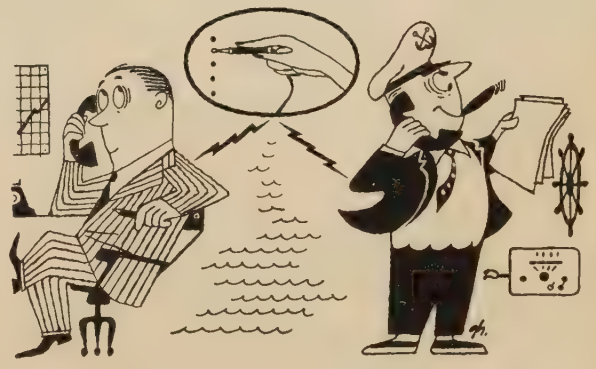

Best way to make a business call at sea

Ship telephone service links ships and coastal craft at sea, and connects them with telephones on land and all around the world. Ship-shore calls mean more business, more safety and comfort at sea for those who enjoy this valuable telephone service. If you'd like information on how ship-shore can serve you, just call or write to Pacific Telephone in your nearest large port city. We'll be glad to send you our free booklet.

Pacific Telephone

Radiotelephone

(*Continued from page 27*)

tent when Pacific Telephone introduced very high frequency (VHF) maritime mobile telephone service, with stations in San Diego and San Pedro. Designed to meet the short-range communications requirements of craft operating within a 30-mile radius of each of the harbors, the service operates in the range of 152 to 162 megacycles. It was believed that the new service, starting when the two stations were placed in operation last November, would be used by many craft operating close to the harbors who had been using the crowded coastal harbor channel.

The swing to this short-range service, however, has not been extensive, probably because few boats limit their scope of operations to such a short range. Like the coastal harbor and high seas services, mobile telephones aboard ship can be connected to any of the nation's telephones. Transmission of the VHF service is stable and relatively free from interference and noise, but its principal value to the long-range fishing fleet would be as a supplementary service only when the boats are operating in or near harbor waters.

Licensing requirements of the FCC for operators of the three types of services are very liberal. High seas service requires only a third class radiotelephone operator's license and a restricted license is all that is required for an operator of a ship radiotelephone using the coastal harbor service. There is no operator license requirement for using the VHF channel. A station license is necessary, however, for all shipboard radio installations.

Procedure for originally establishing service with the telephone company is

simple. The boat owner merely informs the company so that the necessary information for handling calls can be posted on the company's records and an account established for service through Bell System stations.

For the tuna boat operator then, the solution to the problem of adequate radiotelephone service may be reduced to these main considerations:

1. High seas service provides the most dependable radiotelephone communications for all normal requirements of the tuna fleet, even at maximum distances from Southern California.

2. While original cost of the installation may be somewhat higher ,the difference is more than made up by time saving and other factors.

3. As more and more boats shift to high seas service, congestion may be relieved on the coastal harbor channel to some extent.

4. Because assignment by the FCC of additional channel frequencies for the coastal harbor service is not yet assured, boat owners may wish to consider using high seas service when purchasing new equipment.

5. Employing a combination of two of the services or all three would provide maximum flexibility of radiotelephone communications.

No one can accurately predict the extent to which maritime radiotelephone will ultimately grow. Its value is constantly being recognized by an increasing number of boat operators. But whatever the eventual requirements will be your telephone company will do everything possible to meet them as fast as frequencies are assigned and conditions permit.

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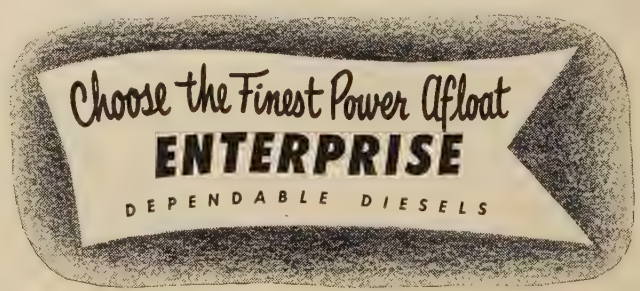

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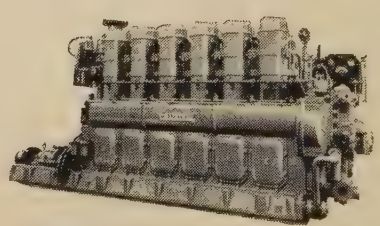

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The Tuna Story

(*Continued from page 29*)

The returns from "The Silver Streak" were phenomenal, being nearly a million dollars—seven times its cost.

The success of these pictures apparently was based on the following elements:

1. Simple action drama laid in semi-familiar surroundings.
2. Interesting development of the industry was woven into the picture as a vital part of the story.
3. Extensive use of the exploitation made available by the type of picture.

The tuna industry has so much background that is picturesque and so many facilities that would be used in a motion picture, together with such a wealth of personal experience to draw upon, that the project, by use of all groups engaged in its operation, would present a well-rounded picture of the entire business.

As to production—the fishermen, their boats and their exciting operations, the festivals which are a part of

(*Continued on page 42*)

Pink Tickets

(*Continued from page 27*)

to the catch, it can be readily seen that the analysis of age groups in catches is a sensitive index to future fishing conditions.

If the proportion of small fish runs higher than normal in catches, it indicates less abundance of older fish or an exceptionally successful spawning. The biologists must ascertain which to be in a position to recommend management practices which will encourage full uti-

lization of the resource, yet not endanger the future supply.

The third method is the tagging of fish. When a thousand fish of one species are tagged and a hundred of them caught it indicates, besides the bioligical data accumulated, that probably 10 per cent of the population of that species was caught during the period.

When all three methods agree on any one subject, the results are conclusive. It is significant that all three coincide accurately.

The excellent record of the California Division of Fish and Game on predictions of fish populations which permits consistent, long-range policies, is based on this study.

Biologists at the Terminal Island laboratory regard the ocean as being similar to a livestock range on which all things must be kept in balance. Breeding stock and the young must be kept in proper proportion to the available food and the harvest amount must be consistent with this balance.

And so, day after day, what appears to be a routine operation, is recording the restless history of California's ocean depths.

That Salty Salt

WESTERN SALT CO.

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South End of
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- **Large steel fabricating department;**
- **Iron, bronze and brass foundry.**

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ENTERPRISE DIESEL ENGINE REPRESENTATIVE

NATIONAL STEEL AND ★ SHIPBUILDING CORPORATION

Harbor Drive at 28th — San Diego 12, California

North Pacific

(*Continued from page 20*)

respective Plenipotentiaries, agree upon the following stipulation in regard to the International Convention for the High Seas Fisheries of the North Pacific Ocean, signed at Tokyo on this ninth day of May, nineteen hundred fifty two.

The Governments of the United States of America, Canada, and Japan agree that the line of meridian 175° West Longitude and the line following the meridian passing through the western extremity of Atka Island, which have been adopted for determining the areas in which the exploitation of salmon is abstained or the conservation measures for salmon continue to be enforced in accordance with the provisions of the Annex to this Convention, shall be considered as provisional lines which shall continue in effect subject to confirmation or readjustment in accordance with the procedure mentioned below.

The Commission to be established under the Convention shall, as expeditiously as practicable, investigate the waters of the Convention area to determine if there are areas in which salmon originating in the rivers of Canada and of the United States of America intermingle with salmon originating in the rivers of Asia. If such areas are found the Commission shall conduct suitable studies to determine a line or lines which best divide salmon of Asiatic origin and salmon of Canadian and United States of America origin, from which certain Contracting Parties have agreed to abstain in accordance with the provisions of Article V, and whether it can be shown beyond a reasonable doubt that this line or lines more equitably divide such salmon than the provisional lines specified in sections 1(c) and 2 of the Annex. In accordance with these determinations the Commission shall recommend that such provisional lines be confirmed or that they be changed in accordance with these results, giving due consideration to adjustments required to simplify administration.

In the event, however, the Commission fails within a reasonable period of time to recommend unanimously such line or lines, it is agreed that the matter shall be referred to a special committee of scientists consisting of three competent and disinterested persons, no one of whom shall be a national of a Contracting Party, selected by mutual agreement of all Parties for the determination of this matter.

It is further agreed that when a determination has been made by a majority of such special committee, the Commission shall make a recommendation in accordance therewith.

The Governments of the United States of America, Canada, and Japan, in signing this Protocol, desire to make it clear that the procedure set forth herein is designed to cover a special situation. It is not, therefore, to be considered a precedent for the final resolution of any matters which may, in the future, come before the Commission.

This Protocol shall become effective from the date of entry into force of the said Convention.

IN WITNESS WHEREOF, the respective Plentipotentiaries have signed this Protocol.

DONE in triplicate at Tokyo this ninth day of May, one thousand nine hundred fifty two.

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SINCE 1868

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The Continental Shelf

(*Continued from page 21*)

political needs of each particular fishery. In no case has successful regulation been undertaken that has not been preceeded by several years of painstaking research, education, and negotiation. In no case has successful regulation come about with respect to all the resources in a particular area. Only when one fishery is considered by itself has there been progress toward successful conservation.

It is suggested that this is a more practical and time tried method of attacking high seas conservation problems than the suggestion by the International Law Commission of handing all these complex problems to a single United Nations agency.

Ebb 'n Flow

(*Continued from page 32*)

this publicity opportunity for our industry. Please send in your fact or story just as soon as possible.

CONDITIONS

Fishing Industry:

A new publication—"Conditions of Work in the Fishing Industry"—was recently issued by the International Labour Office, Geneva. Conditions in a large number of countries, including the United States, are described. The first chapter is a general survey of the fisheries of many countries, including the United States. Discussed in this first chapter are the types of fishing, species of fish caught, number of persons engaged in the industry, total tonnage of vessels engaged in the industry, and government action to regulate or assist the industry. Wages, hours, and manpower are covered in the second chapter, and the subjects discussed are systems of remuneration, actual earnings, hours of work, manning of fishing vessels, and continuity of employment. General conditions of employment and welfare are dealt with in the third chapter, while the fourth is devoted to social security. Cooperative societies are covered in the last chapter.

Copies of this publication may be purchased in the United States from W. Thacher Winslow, International Labor Office, 1825 Jefferson Place, N.W., Washington 6, D. C., at $5.00 per copy.

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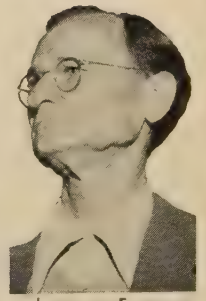

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FERRIS & FERRIS
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605 Fifth Ave.—F-1263
CHECKS CASHED
SAN DIEGO

The Tuna Story

(Continued from page 39)

their lives. the canners with their modern equipment and trained personnel, the fine sanitary conditions, the shipyards rushing to keep the clippers of the fleet in top shape to operate—all these are "big production", important in a picture to give it stature.

On the personal, the story side, a dramatic story of a family and its boat, of a younger son, his romance and his problems. Danger, excitement, ambition. A great banquet in his honor for a heroic deed. This, too, is "big production" in its large number of people seen but also in going into kitchens and salad rooms as well as the banquet room and watching the chefs readying the many delicious tuna dishes made especially attractive for the occasion and how easily they are prepared.

No housewife will ever forget what she has seen here. And all this in bright, natural color!

How can this be overlooked in a time of so great need?

The industry can use its full influence in any proper field to the end that such cooperation by manufacturers, distributors, operators (including its own member operators) and the industry-associated dealers as can be helpful in exploiting the picture will be forthcoming.

It can request the friendly, interested cooperation of the product distributor in any and every proper manner which helps to focus attention on the picture and induce people to want to see it.

This cooperation would include insertion into their various house-organs of material furnished by the distributor

of the picture and such other items as the industry would contribute.

Also display ads in local newspapers during the run of the picture; display of banners on their working equipment; display of banners and other material in their salesrooms; cooperation with the local theatres during opening runs in cities and towns. A special booklet of suggestions of tuna uses, illustrated by cuts from the motion picture, can be presented to theater patrons on leaving, which will carry these ideas directly into the kitchens to be filed for continued use.

This is the kind of advertising that cannot be bought. Advertising in the most expensive medium in the world—and it's free!

Every line written, every word spoken, every picture displayed in connection with the picture is a direct advertisement for the whole industry.

This proposal indicates that a sum advanced for purposes which can, in all fairness, be considered as advertising, does its job well, then returns the original sum, making the cost nothing, and lives on to return a cash profit while continuing to carry the good-will message to new audiences each week.

The rapid increase in television coverage in the United States indicates that at the end of the theatre exhibition runs, the vast audiences which sees its pictures at home will be available, and the opportunity to bring tuna into its homes will make possible almost complete national coverage. By no other medium can this be accomplished. This one project will be alive and fresh for some four years.

By this method, a story about the tuna industry is told to thousands of relaxed and attentive people each day. eventually reaching into every city and town in the world.

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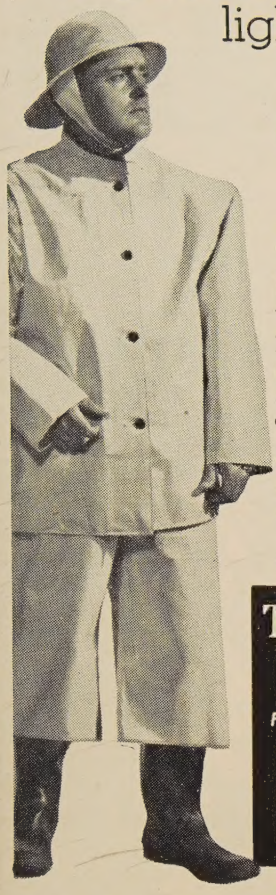

Sawyer

FISHERMAN'S SUITS . . . 100% Waterproof — made with top quality base fabric *saturation-coated* first and then coated with 6 coats of Neoprene Latex.*
Rotproof — not affected by grease, oil or gasoline. Highly resistant to ordinary acids. *Positively will not blister, crack or peel.*
Tough as mule-hide — wear like iron, takes endless snagging, rubbing, scraping and still give full protection.
**Sawyer fabrics are coated by The Brunsene Company, a division of*

THE H.M. SAWYER & SON CO.
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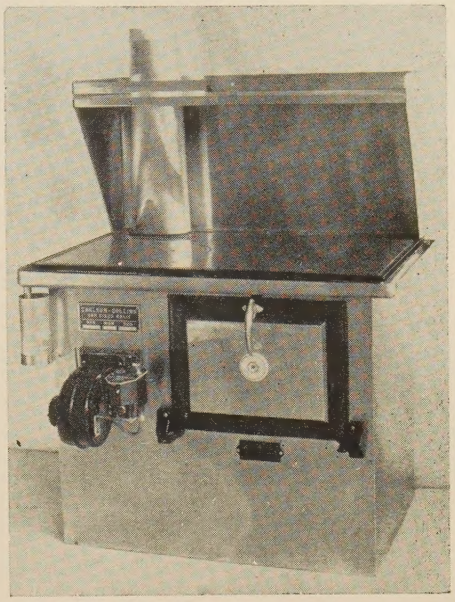
Styles illustrated 527 jacket, 501 pants, 557 hat.

First Choice of the Tuna Clippers



CARLSON RANGES

First choice for the Tuna Clippers—in black or all stainless steel—forced or natural draft—compact, modern, efficient.

Agents in All Pacific Ports *Service for All Ranges*

The CARLSON COMPANY
1760 KETTNER SAN DIEGO, CALIF.

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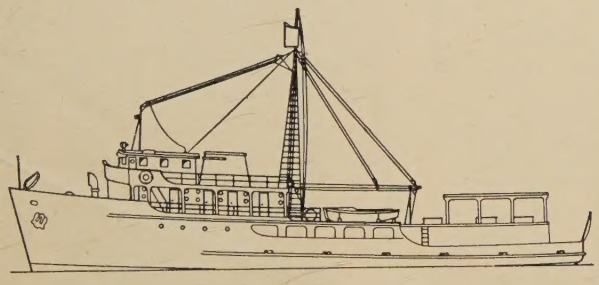

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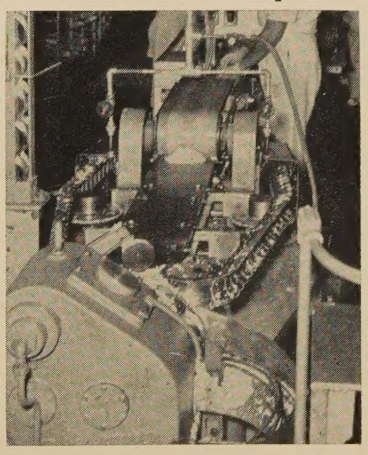

PAK-SHAPER
PAK-FORMER

These two machines are the most important advance in the rapid, mechanized packing of tuna, available to canneries today.

Proof of this statement is attested by the present use of these mechanized packers by every important canner of tuna on the West Coast.

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THESE FIRMS SPECIALIZE IN SERVING THE FISHING AND WATERFRONT INDUSTRIES. THEY UNDERSTAND YOUR PROBLEMS — SAVE TIME AND MONEY BY CALLING THEM

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DO YOU HAVE a boat for sale or exchange? Advertise boat offerings or requirements on this page—for really fast response. Classified advertising—at a special rate of only 75c per line.

FOR ANY TYPE of fishing vessel up to 100 ft. long. THE ANCHORAGE, LTD. "Chick" Rollins, 5104 Harbor Drive, San Diego. B 2-1291.

FOR SALE—5½ percent in 320 ton steel tuna clipper. A good money maker. Only 4 years old Will discount some. Phone or write Pan-American Fisherman, 205 Broadway Pier Bldg., San Diego.

FOR SALE: 49-ft. diesel-powered halibut boat, suitable for seining or crab fishing. Equipped with radiophone, direction finder, depth recorder and halibut gear to start season. Built in '45, had formerly fished tuna. Further information write H. M. Grindle, Box 314, Cordova, Alaska.

PRICED TO SELL: 40 ton tuna boat, four brine wells, carries 425, scoops bait, completely equipped. Fast—call Franklin 7583. Mr. Miller, San Diego, Calif.

MARY V—Fully electric boat, 43-ton capacity. Main engine, 150 Superior diesel, 2 Cummins 60-h auxiliaries, 2 38-KW Westinghouse generators, 2 5-ton Carrier ice machines, 20 ton brine, 23 ton ice, power tender, automatic pilot. Excellent condition—ready to soil. Write, 2838 Canyon Street, San Diego. Phone B4990.

FOR SALE: "Susan Jean", 48'x 13'10". Monk-designed, steel hull. Four years old. Completely equipped. Fuel 2200 gals., water 500. Atlas Diesel. Gross 31 tons. Sleeps 6. Halibut and tuna gear. Priced right. C. M. Negstad, 1322 S.E. Madison, Portland, Oregon.

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FISHERMEN—SPORTSMEN
Shoulder-operated harpoon rifle. Fires both a 1.3 lb. harpoon and a ball cartridge 10.15 mm. Used for the killing of swordfish, tuna, dolphins, sailfish, seals, etc., and can be used for the capturing of Beluga whales and the smaller varieties of porpoises, sharks and mammals. Price $205 delivered to nearest Railway Express agent. Beluga Trade Fishery, Chugiak, Alaska.

TUNA CLIPPERS

FOR SALE—Large, modern tuna clipper—all steel hull—complete refrigeration—in finest condition, and ready to put to sea. Available at a really low price for fast action. Phone or write Pan-American Fisherman, P. O. Box 12, 205 Broadway Pier Bldg., San Diego.

FOR SALE—20 per cent or smaller interest in 260-ton wooden tuna clipper now operating under contract. Represents excellent investment opportunity with possibility of large return on your money. Phone or write Pan-American Fisherman, P. O. Box 5, 205 Broadway Pier Bldg., San Diego.

WE HAVE excellent opportunities for investments in tuna boats in amounts of $5,000 and up. M. E. Simas Co., P. O. Box 582, San Diego 6, Calif. B2-1252.

BOATS WANTED

WANT TO BUY good albacore boat. Will pay right price for boat in good condition. Need at once. Please write P. O. Box 136, Pan-American Fisherman, 205 Broadway Pier, San Diego.

BOATS EXCHANGED

FOR EXCHANGE OR SALE — Several different types and sizes. Write us your requirements—we always have a large number of boats available, or we will be glad to locate the exact boat you want. Write Pan-American Fisherman, P. O. Box 1, 205 Broadway Pier, San Diego.

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SOUTHERN PACIFIC

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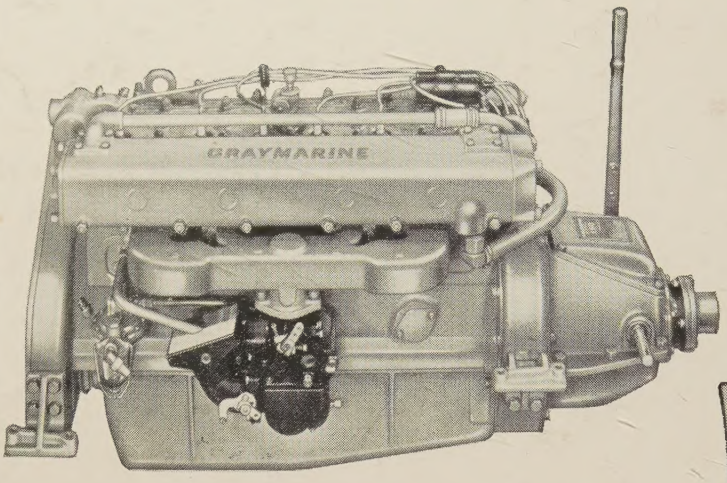
SHIPBUILDING CORPORATION
TACOMA, WASHINGTON

GRAYMARINE ENGINES FOR FISHING BOATS



Choice of 18 Models, Gasoline and Diesel, 16 to 150 H.P.

Choice of Reverse Gear, hydraulic or manual type

Choice of Mounting Brackets, to fit any engine bed

Choice of 6 or 12 volt Electrical System, extra generator available

Magneto Ignition available

Automatic Temperature Control System standard on most models

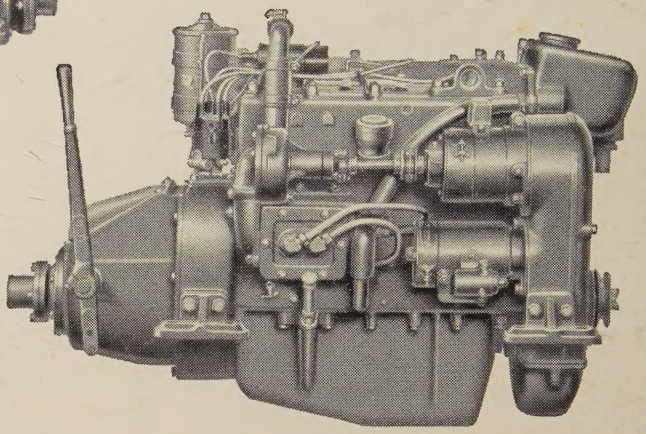
Fresh Water Cooling System available on all models

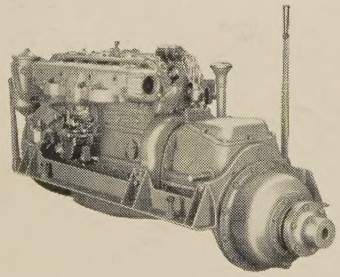
Ignition shielding available for bigger vessels with radio telephone

Sealed Unit Instrument Panel weather-proof

Extra Equipment, such as flywheel enclosure, and useful vee pulleys

Gray has been building marine engines for 46 years, and we know the needs of commercial fishermen. We recognize that the demands on an engine in their operations far exceed the requirements of intermittent service in a pleasure boat. Thus Gray Lugger and Express models are relatively slow speed engines, built for swinging big propellers in heavy boats.

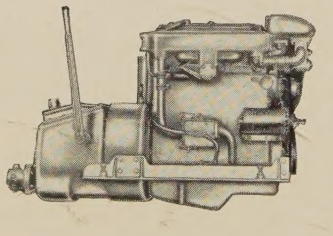


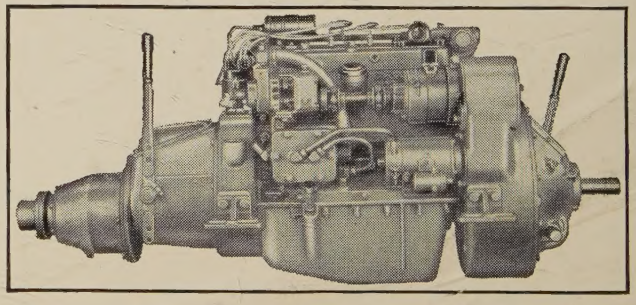


An outstanding engine for larger boats in the Gray Six-330 (gasoline), with 4″ bore and 4⅜″ stroke, rated 96 hp at 2400 rpm, and 124 hp at 3200 rpm. It has seven main bearings, 2⅝″ crankshaft, sodium-cooled exhaust valves, and oversize reverse gear.

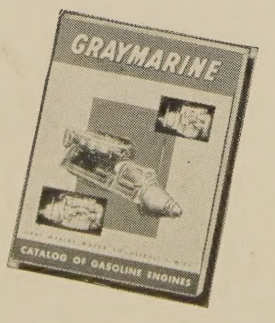
The powerful small engine shown above with built-in fresh water cooling system has a piston displacement of 162 cubic inches, develops 42 hp at 1800 rpm, and swings a 16 x 9 propeller on direct drive in heavy 30-foot fishing boats. It is also available with 2:1 or 3:1 reduction gear and power take-off. A special style of this, known by the trade name of ALASKA LUGGER, was this year adopted as standard equipment for fishing fleets operating in Bristol Bay, Alaska. 500 were installed in 1952.

Gray builds Diesels in four sizes. These include two four-cylinder models rated 30 hp and 50 hp at 1800 rpm, also two six-cylinder models rated 105 hp and 135 hp at 2200 rpm. All have fresh water cooling system.





All Graymarine engines are available with reduction gear drive, and Twin-Disc Power Take-off, as illustrated in the unit above, for operating net hauling winch, etc. Extra vee pulleys are also available on front end of engine, at small extra cost.



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Our 56-page illustrated catalog contains complete information on Graymarine engines, including detailed specifications, photographs of engines and equipment, accurate dimension drawings, description of accessories, and useful tables of propeller sizes. A copy will be mailed promptly, without charge and without obligation, to anyone in the fishing industry.

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